



GAATTCGGAG GAATTATTCA AAACATAAAC ACAATAAACA ATTTGAGTAG TTGCCGCACA 60

CACACACACA CACAGCCCGT GGATTATTAC ACTAAAAGCG ACACTCAATC CAAAAAATCA 120

GCAACAAAAA CATCAATAAA C ATG CAT TGG ATT AAA TGT TTA TTA ACA GCA 171
Met His Trp Ile Lys Cys Leu Leu Thr Ala
1 5 10

TTC ATT TGC TTC ACA GTC ATC GTG CAG GTT CAC AGT TCC GGC AGC TTT 219
Phe Ile Cys Phe Thr Val Ile Val Gln Val His Ser Ser Gly Ser Phe
15 20 25

GAG TTG CGC CTG AAG TAC TTC AGC AAC GAT CAC GGG CGG GAC AAC GAG 267
Glu Leu Arg Leu Lys Tyr Phe Ser Asn Asp His Gly Arg Asp Asn Glu
30 35 40

GGT CGC TGC TGC AGC GGG GAG TCG GAC GGA GCG ACG GGC AAG TGC CTG 315
Gly Arg Cys Cys Ser Gly Glu Ser Asp Gly Ala Thr Gly Lys Cys Leu
45 50 55

GGC AGC TGC AAG ACG CGG TTT CGC GTC TGC CTA AAG CAC TAC CAG GCC 363
Gly Ser Cys Lys Thr Arg Phe Arg Val Cys Leu Lys His Tyr Gln Ala
60 65 70

ACC ATC GAC ACC ACC TCC CAG TGC ACC TAC GGG GAC GTG ATC ACG CCC 411
Thr Ile Asp Thr Thr Ser Gln Cys Thr Tyr Gly Asp Val Ile Thr Pro
75 80 85 90

ATT CTC GGC GAG AAC TCG GTC AAT CTG ACC GAC GCC CAG CGC TTC CAG 459
Ile Leu Gly Glu Asn Ser Val Asn Leu Thr Asp Ala Gln Arg Phe Gln
95 100 105

AAC AAG GGC TTC ACG AAT CCC ATC CAG TTC CCC TTC TCG TTC TCA TGG 507
Asn Lys Gly Phe Thr Asn Pro Ile Gln Phe Pro Phe Ser Phe Ser Trp
110 115 120

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| | |
|---|-----|
| CCG GGT ACC TTC TCG CTG ATC GTC GAG GCC TGG CAT GAT ACG AAC AAT | 555 |
| Pro Gly Thr Phe Ser Leu Ile Val Glu Ala Trp His Asp Thr Asn Asn | |
| 125 130 135 | |
| AGC GGC AAT GCG CGA ACC AAC AAG CTC CTC ATC CAG CGA CTC TTG GTG | 603 |
| Ser Gly Asn Ala Arg Thr Asn Lys Leu Leu Ile Gln Arg Leu Leu Val | |
| 140 145 150 | |
| CAG CAG GTA CTG GAG GTG TCC TCC GAA TGG AAG ACG AAC AAG TCG GAA | 651 |
| Gln Gln Val Leu Glu Val Ser Ser Glu Trp Lys Thr Asn Lys Ser Glu | |
| 155 160 165 170 | |
| TCG CAG TAC ACG TCG CTG GAG TAC GAT TTC CGT GTC ACC TGC GAT CTC | 699 |
| Ser Gln Tyr Thr Ser Leu Glu Tyr Asp Phe Arg Val Thr Cys Asp Leu | |
| 175 180 185 | |
| AAC TAC TAC GGA TCC GGC TGT GCC AAG TTC TGC CGG CCC CGC GAC GAT | 747 |
| Asn Tyr Tyr Gly Ser Gly Cys Ala Lys Phe Cys Arg Pro Arg Asp Asp | |
| 190 195 200 | |
| TCA TTT GGA CAC TCG ACT TGC TCG GAG ACG GGC GAA ATT ATC TGT TTG | 795 |
| Ser Phe Gly His Ser Thr Cys Ser Glu Thr Gly Glu Ile Ile Cys Leu | |
| 205 210 215 | |
| ACC GGA TGG CAG GGC GAT TAC TGT CAC ATA CCC AAA TGC GCC AAA GGC | 843 |
| Thr Gly Trp Gln Gly Asp Tyr Cys His Ile Pro Lys Cys Ala Lys Gly | |
| 220 225 230 | |
| TGT GAA CAT GGA CAT TGC GAC AAA CCC AAT CAA TGC GTT TGC CAA CTG | 891 |
| Cys Glu His Gly His Cys Asp Lys Pro Asn Gln Cys Val Cys Gln Leu | |
| 235 240 245 250 | |
| GGC TGG AAG GGA GCC TTG TGC AAC GAG TGC GTT CTG GAA CCG AAC TGC | 939 |
| Gly Trp Lys Gly Ala Leu Cys Asn Glu Cys Val Leu Glu Pro Asn Cys | |
| 255 260 265 | |

Best Available Copy

FIG.1B

| | |
|---|------|
| ATC CAT GGC ACC TGC AAC AAA CCC TGG ACT TGC ATC TGC AAC GAG GGT Ile His Gly Thr Cys Asn Lys Pro Trp Thr Cys Ile Cys Asn Glu Gly 270 275 280 | 987 |
| TGG GGA GGC TTG TAC TGC AAC CAG GAT CTG AAC TAC TGC ACC AAC CAC Trp Gly Gly Leu Tyr Cys Asn Gln Asp Leu Asn Tyr Cys Thr Asn His 285 290 295 | 1035 |
| AGA CCC TGC AAG AAT GGC GGA ACC TGC TTC AAC ACC GGC GAG GGA TTG Arg Pro Cys Lys Asn Gly Gly Thr Cys Phe Asn Thr Gly Glu Gly Leu 300 305 310 | 1083 |
| TAC ACA TGC AAA TGC GCT CCA GGA TAC AGT GGT GAT GAT TGC GAA AAT Tyr Thr Cys Lys Cys Ala Pro Gly Tyr Ser Gly Asp Asp Cys Glu Asn 315 320 325 330 | 1131 |
| GAG ATC TAC TCC TGC GAT GCC GAT GTC AAT CCC TGC CAG AAT GGT GGT Glu Ile Tyr Ser Cys Asp Ala Asp Val Asn Pro Cys Gln Asn Gly Gly 335 340 345 | 1179 |
| ACC TGC ATC GAT GAG CCG CAC ACA AAA ACC GGC TAC AAG TGT CAT TGC Thr Cys Ile Asp Glu Pro His Thr Lys Thr Gly Tyr Lys Cys His Cys 350 355 360 | 1227 |
| GCC AAC GGC TGG AGC GGA AAG ATG TGC GAG GAG AAA GTG CTC ACG TGT Ala Asn Gly Trp Ser Gly Lys Met Cys Glu Glu Lys Val Leu Thr Cys 365 370 375 | 1275 |
| TCG GAC AAA CCC TGT CAT CAG GGA ATC TGC CGC AAC GTT CGT CCT GGC Ser Asp Lys Pro Cys His Gln Gly Ile Cys Arg Asn Val Arg Pro Gly 380 385 390 | 1323 |
| TTG GGA AGC AAG GGT CAG GGC TAC CAG TGC GAA TGT CCC ATT GGC TAC Leu Gly Ser Lys Gly Gln Gly Tyr Gln Cys Glu Cys Pro Ile Gly Tyr 395 400 405 410 | 1371 |

FIG.1C

| | |
|---|------|
| AGC GGA CCC AAC TGC GAT CTC CAG CTG GAC AAC TGC AGT CCG AAT CCA | 1419 |
| Ser Gly Pro Asn Cys Asp Leu Gln Leu Asp Asn Cys Ser Pro Asn Pro | |
| 415 420 425 | |
| TGC ATA AAC GGT GGA AGC TGT CAG CCG AGC GGA AAG TGT ATT TGC CCA | 1467 |
| Cys Ile Asn Gly Gly Ser Cys Gln Pro Ser Gly Lys Cys Ile Cys Pro | |
| 430 435 440 | |
| GCG GGA TTT TCG GGA ACG AGA TGC GAG ACC AAC ATT GAC GAT TGT CTT | 1515 |
| Ala Gly Phe Ser Gly Thr Arg Cys Glu Thr Asn Ile Asp Asp Cys Leu | |
| 445 450 455 | |
| GGC CAC CAG TGC GAG AAC GGA GGC ACC TGC ATA GAT ATG GTC AAC CAA | 1563 |
| Gly His Gln Cys Glu Asn Gly Gly Thr Cys Ile Asp Met Val Asn Gln | |
| 460 465 470 | |
| TAT CGC TGC CAA TGC GTT CCC GGT TTC CAT GGC ACC CAC TGT AGT AGC | 1611 |
| Tyr Arg Cys Gln Cys Val Pro Gly Phe His Gly Thr His Cys Ser Ser | |
| 475 480 485 490 | |
| AAA GTT GAC TTG TGC CTC ATC AGA CCG TGT GCC AAT GGA GGA ACC TGC | 1659 |
| Lys Val Asp Leu Cys Leu Ile Arg Pro Cys Ala Asn Gly Gly Thr Cys | |
| 495 500 505 | |
| TTG AAT CTC AAC AAC GAT TAC CAG TGC ACC TGT CGT GCG GGA TTT ACT | 1707 |
| Leu Asn Leu Asn Asn Asp Tyr Gln Cys Thr Cys Arg Ala Gly Phe Thr | |
| 510 515 520 | |
| GGC AAG GAT TGC TCT GTG GAC ATC GAT GAG TGC AGC AGT GGA CCC TGT | 1755 |
| Gly Lys Asp Cys Ser Val Asp Ile Asp Glu Cys Ser Ser Gly Pro Cys | |
| 525 530 535 | |
| CAT AAC GGC GGC ACT TGC ATG AAC CGC GTC AAT TCG TTC GAA TGC GTG | 1803 |
| His Asn Gly Gly Thr Cys Met Asn Arg Val Asn Ser Phe Glu Cys Val | |
| 540 545 550 | |

FIG.1D

| | |
|---|------|
| TGT GCC AAT GGT TTC AGG GGC AAG CAG TGC GAT GAG GAG TCC TAC GAT | 1851 |
| Cys Ala Asn Gly Phe Arg Gly Lys Gln Cys Asp Glu Glu Ser Tyr Asp | |
| 555 560 565 570 | |
| TCG GTG ACC TTC GAT GCC CAC CAA TAT GGA GCG ACC ACA CAA GCG AGA | 1899 |
| Ser Val Thr Phe Asp Ala His Gln Tyr Gly Ala Thr Thr Gln Ala Arg | |
| 575 580 585 | |
| GCC GAT GGT TTG ACC AAT GCC CAG GTA GTC CTA ATT GCT GTT TTC TCC | 1947 |
| Ala Asp Gly Leu Thr Asn Ala Gln Val Val Leu Ile Ala Val Phe Ser | |
| 590 595 600 | |
| GTT GCG ATG CCT TTG GTG GCG GTT ATT GCG GCG TGC GTG GTC TTC TGC | 1995 |
| Val Ala Met Pro Leu Val Ala Val Ile Ala Ala Cys Val Val Phe Cys | |
| 605 610 615 | |
| ATG AAG CGC AAG CGT AAG CGT GCT CAG GAA AAG GAC GAC GCG GAG GCC | 2043 |
| Met Lys Arg Lys Arg Lys Arg Ala Gln Glu Lys Asp Asp Ala Glu Ala | |
| 620 625 630 | |
| AGG AAG CAG AAC GAA CAG AAT GCG GTG GCC ACA ATG CAT CAC AAT GGC | 2091 |
| Arg Lys Gln Asn Glu Gln Asn Ala Val Ala Thr Met His His Asn Gly | |
| 635 640 645 650 | |
| AGT GGG GTG GGT GTA GCT TTG GCT TCA GCC TCT CTG GGC GGC AAA ACT | 2139 |
| Ser Gly Val Gly Val Ala Leu Ala Ser Ala Ser Leu Gly Gly Lys Thr | |
| 655 660 665 | |
| GGC AGC AAC AGC GGT CTC ACC TTC GAT GGC GGC AAC CCG AAT ATC ATC | 2187 |
| Gly Ser Asn Ser Gly Leu Thr Phe Asp Gly Gly Asn Pro Asn Ile Ile | |
| 670 675 680 | |
| AAA AAC ACC TGG GAC AAG TCG GTC AAC AAC ATT TGT GCC TCA GCA GCA | 2235 |
| Lys Asn Thr Trp Asp Lys Ser Val Asn Asn Ile Cys Ala Ser Ala Ala | |
| 685 690 695 | |

FIG.1E

| | |
|---|------|
| GCA GCG GCG GCG GCG GCA GCA GCG GCG GAC GAG TGT CTC ATG TAC GGC Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala Asp Glu Cys Leu Met Tyr Gly 700 705 710 | 2283 |
| GGA TAT GTG GCC TCG GTG GCG GAT AAC AAC AAT GCC AAC TCA GAC TTT Gly Tyr Val Ala Ser Val Ala Asp Asn Asn Asn Ala Asn Ser Asp Phe 715 720 725 730 | 2331 |
| TGT GTG GCT CCG CTA CAA AGA GCC AAG TCG CAA AAG CAA CTC AAC ACC Cys Val Ala Pro Leu Gln Arg Ala Lys Ser Gln Lys Gln Leu Asn Thr 735 740 745 | 2379 |
| GAT CCC ACG CTC ATG CAC CGC GGT TCG CCG GCA GGC AGC TCA GCC AAG Asp Pro Thr Leu Met His Arg Gly Ser Pro Ala Gly Ser Ser Ala Lys 750 755 760 | 2427 |
| GGA GCG TCT GGC GGA GGA CCG GGA GCG GCG GAG GGC AAG AGG ATC TCT Gly Ala Ser Gly Gly Gly Pro Gly Ala Ala Glu Gly Lys Arg Ile Ser 765 770 775 | 2475 |
| GTT TTA GGC GAG GGT TCC TAC TGT AGC CAG CGT TGG CCC TCG TTG GCG Val Leu Gly Glu Gly Ser Tyr Cys Ser Gln Arg Trp Pro Ser Leu Ala 780 785 790 | 2523 |
| GCG GCG GGA GTG GCC GGA GCC TGT TCA TCC CAG CTA ATG GCT GCA GCT Ala Ala Gly Val Ala Gly Ala Cys Ser Ser Gln Leu Met Ala Ala Ala 795 800 805 810 | 2571 |
| TCG GCA GCG GGC AGC GGA GCG GGG ACG GCG CAA CAG CAG CGA TCC GTG Ser Ala Ala Gly Ser Gly Ala Gly Thr Ala Gln Gln Gln Arg Ser Val 815 820 825 | 2619 |
| GTC TGC GGC ACT CCG CAT ATG TAACTCCAAA AATCCGGAAG GGCTCCTGGT Val Cys Gly Thr Pro His Met 830 | 2670 |
| AAATCCGGAG AAATCCGCAT GGAGGAGCTG ACAGCACATA CACAAAGAAA AGACTGGGTT | 2730 |
| GGGTTCAAAA TGTGAGAGAG ACGCCAAAAT GTTGTGTGTTG ATTGAAGCAG TTTAGTCGTC | 2790 |
| ACGAAAAATG AAAAATCTGT AACAGGCATA ACTCGTAAAC TCCCTAAAAA ATTTGTATAG | 2850 |
| TAATTAGCAA AGCTGTGACC CAGCCGTTTC GATCCCGAAT TC | 2892 |

FIG.1F

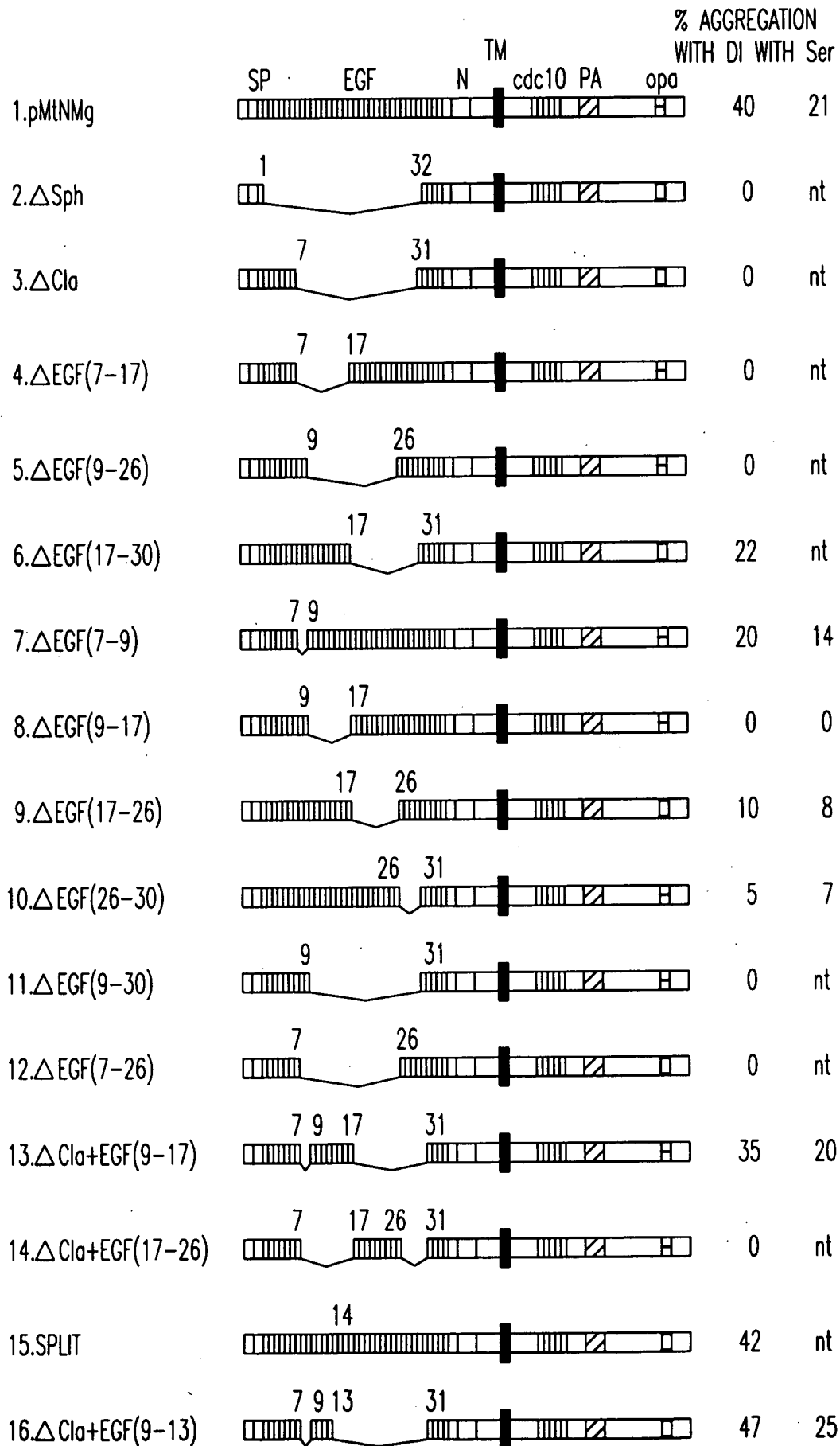


FIG.2A

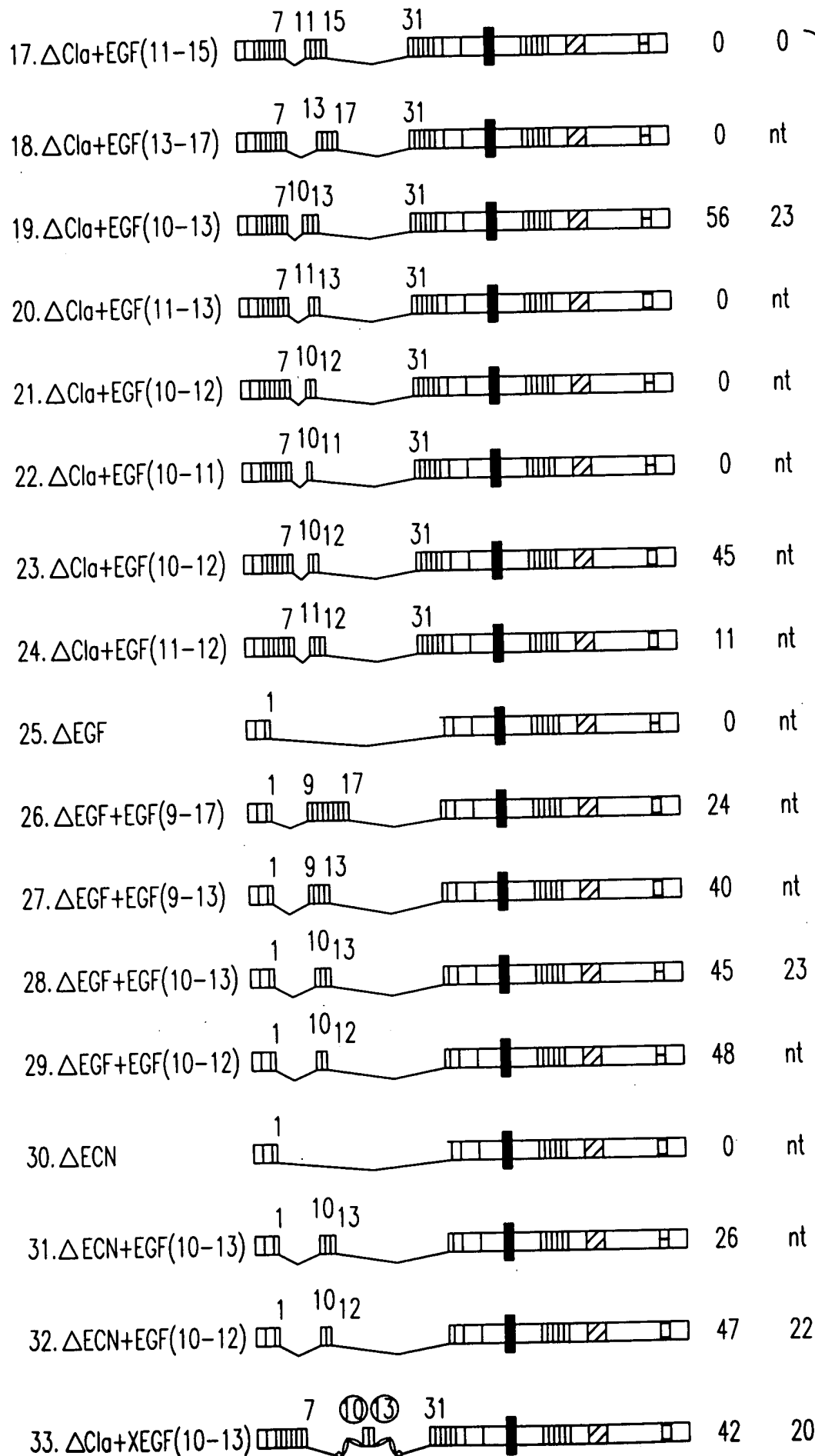


FIG.2B

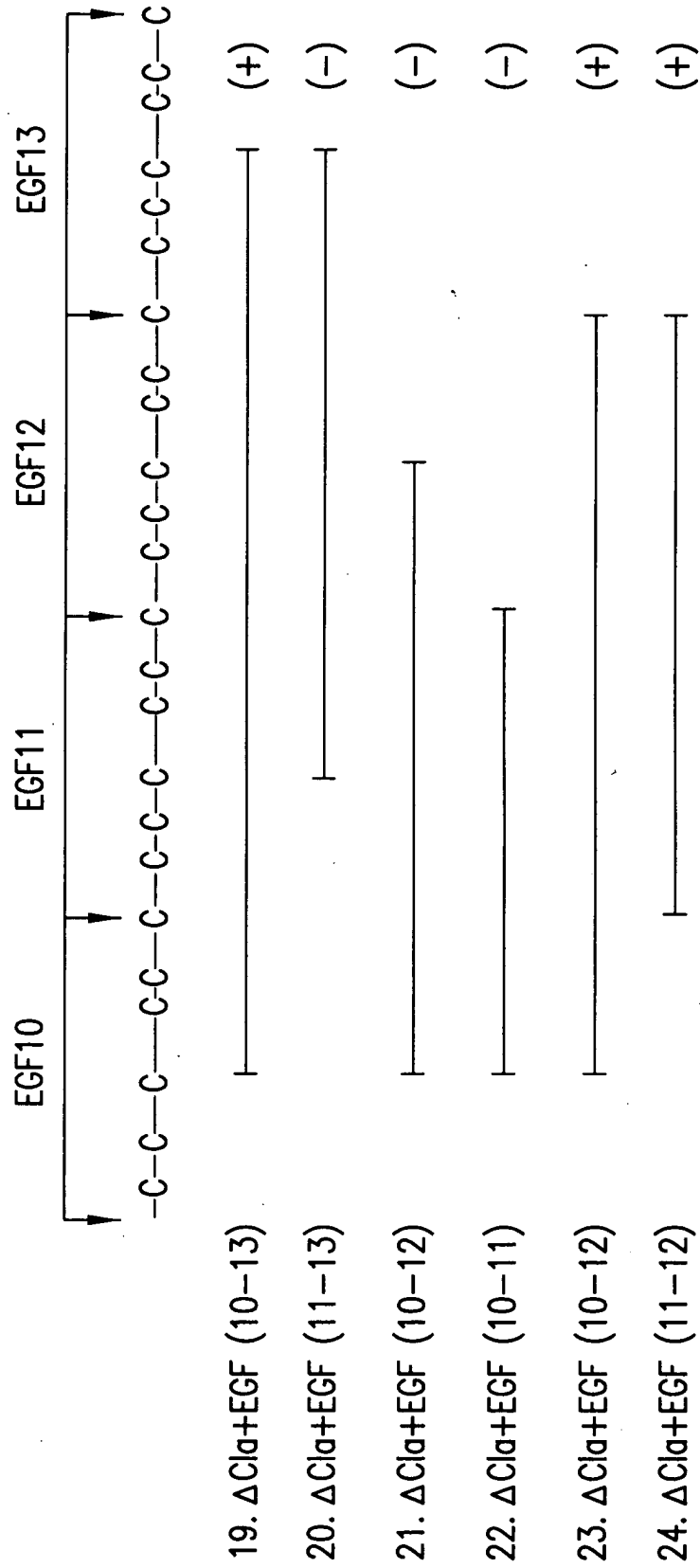


FIG. 3

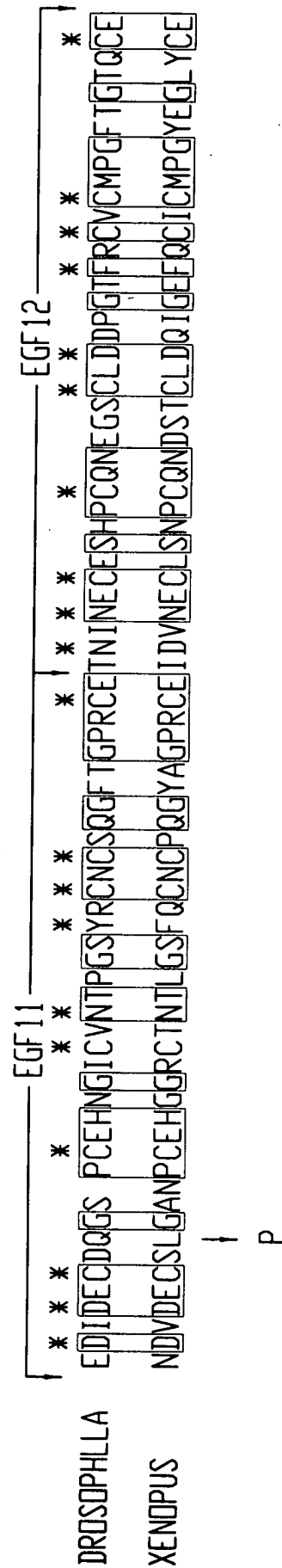


FIG.4

1 CCGAGTCGAGCGCGTCTCGAGCGGTGATGAGCCCTTTTCTGTCAACGCTAAAGATC
121 AAGCACATACTAAGGTCCATATAATAATAATAATTGTGTGTGATAACAACATTAT
241 GGCCGTTATTCAGCTATCCAGAGCAAGTGTAGTGTGGCAAAATAGAAACAACAAGGCA
361 CAATCCAGAGTGAATCCGAAACAACACTCCATCTAGATCGCCCAACCAAGCATCACGCTCGCA

481 TCGTCGTTGGAGTCAACAATAGAAATCAGCAGACAGCCTGGGAATGTCCAAGACGGCG
SerSerLeuGluSerThrIleGluSerAlaAspSerLeuGlyMetSerLysLysThrAla

601 CGCGATTGTCGATCATTAAGICTGCCTGCAACTTAATTGCTTTAATTTAATACTGTTA
ArgAspCysArgSerLeuLysSerAlaCysAsnLeuIleAlaLeuIleLeuIleLeuLeu

721 AACAGCCATCTACTCAACGGCTATTGCTGGGCATGCCAGCGGAACCTAGGGCCACCAAG
AsnSerHisLeuLeuAsnGlyTyrCysCysGlyMetProAlaGluLeuArgAlaThrLys

841 ACQAGCAGGGTGCCAGCATATCCACGGGCTGTTCGTTTGGCAAGGCCACCACCAAGATA
ThrGluGlnGlyAlaSerIleSerThrGlyCysSerPheGlyAsnAlaThrThrLysIle
#2

961 ACGTTTCGTTGGACGAGTCGTTACGCTGATACTGCAGGCGTTGGATAATGTACAACACA
ThrPheArgTrpThrLysSerPheThrLeuIleLeuGlnAlaLeuAspMetTyrAsnThr
#3
1081 TCGCCGGAGTGGAGACGCTGGACCACATCGGGCGGAACGCGGATCACCTACCGTGTC
SerProGluTrpLysThrLeuAspHisIleGlyArgAsnAlaArgIleThrTyrArgVal

1201 GACGATCAGTTCGGTCACATACGCCCTGGGGCTCCGAGGGTCAGAAAGCTCTGCCTGAATGGC
AspAspGlnPheGlyHisTyrAlaCysGlySerGluGlyGlnLysLeuCysLeuAsnGly

FIG. 5A

FIG. 5B

TACAAACATCAGCGCCTATCAAGTGAAGTGTCAGTGTGAACAAACAAACGAGAG
CCAAACAAACCAACAAACGAGGCAAGTGGAGAAATGATACAGCATCCAGAGTAC
CCAAATCTGCATACATGGGCTAATTAGGCTGCCAGCGAATTACATTTGTGTGGTGC
AACGCCCCCAGAAATGTACAAAATGTTAGGAAACATTTTCGGCGAAACACGCTACGTCG
MetPheArgLysHisPheArgArgLysProAlaThrSer 13
ACAAAAGGCAGGTCGGAGGCATCGGTACCCAAAAATCGGAGCCCTGCCATCGACGATC
ThrLysArgGlnArgProArgHisArgValProLysIleAlaThrLeuProSerThrIle 53
GTCCATAAGATATCCGCAGCTGGTAACCTCGAGCTGGAAATATTAGAAATCTCAAAATACC
ValHisLysIleSerAlaAlaGlyAsnPheGluLeuGluIleLeuGluIleSerAsnThr 93
-----#1
ACGATAGGCTGCTCGCCATGCACGACGGCATTCCTGGCTGTGCCTGAAGGAGTACCAGACC
ThrIleGlyCysSerProCysThrThrAlaPheArgLeuCysLeuLysGluTyrGlnThr 133
CTGGGTGGCTCCAGCTTTGTGCTCAGCGATCCGGGTGTGGAGCCATTGTGCTGCCCTTT
LeuGlyGlySerSerPheValLeuSerAspProGlyValGlyAlaIleValLeuProPhe 173
TCCTATCCAGATGCGGAGAGGTTAATTGAGGAAACATCATCTCGGGCGGTGATACTGCCG
SerTyrProAspAlaGluArgLeuIleGluGluThrSerTyrSerGlyValIleLeuPro 213
#4
CGGGTGCAATGCGCGCTTACCTACTACAACACGACCTGCACGACCTTGTGCCGTCCGCGG
ArgValGlnCysAlaValThrTyrTyrAsnThrThrCysThrThrPheCysArgProArg 253
TGGCAGGGCGTCAACTGCGAGGAGGCCATATGCAAGGCGGGCTGCGACCCCGTCCACGGC
TrpGlnGlyValAsnCysGluGluAlaIleCysLysAlaGlyCysAspProValHisGly 293

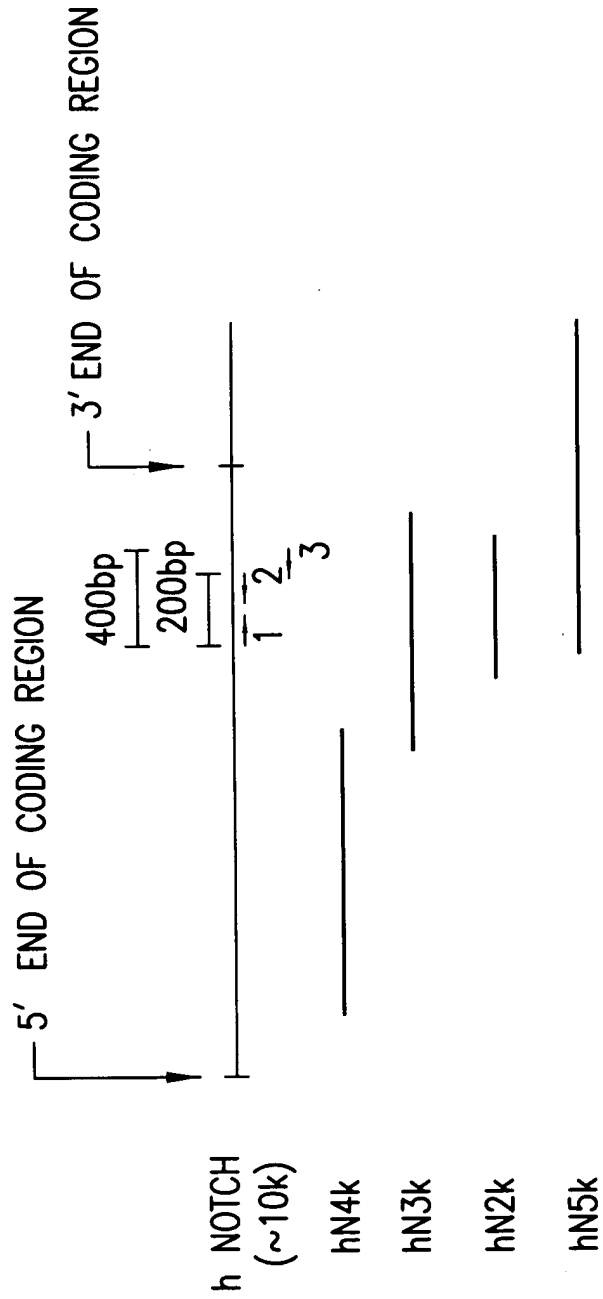
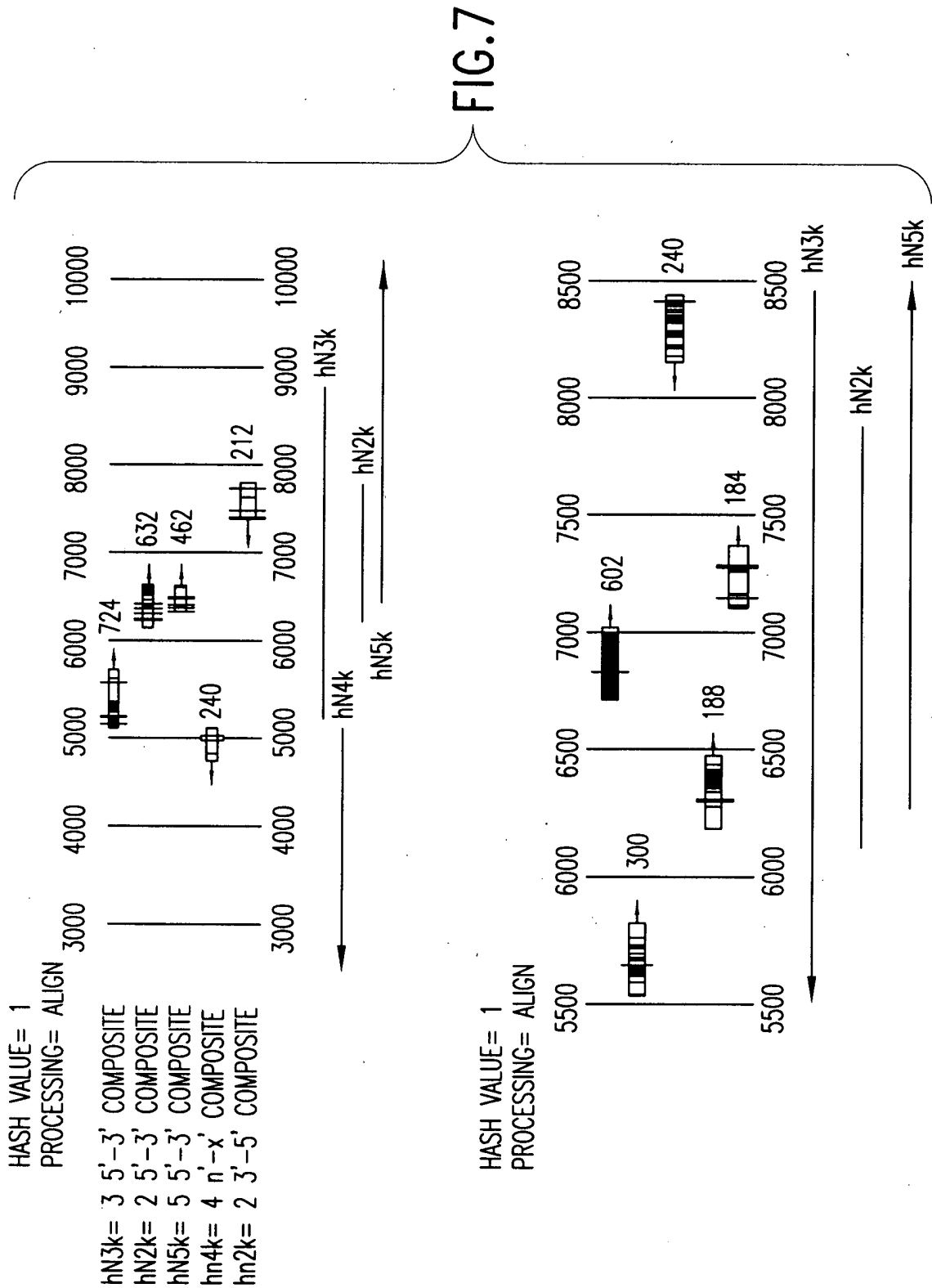


FIG.6



1 GAATTCGGCT GGGAGAATGG TCTGAGCTAC CTGCCCCTCC TGCTGGGGCA TCAATGGCAA
61 GTGGGGAAAG CCACACTGGG CAAACGGGCC AGGCCATTTC TGAATGTGG TACATGGTGG
121 GCAGGGGGCC CGCAACAGCT GGAGGGCAGG TGGACTGAGG CTGGGGATCC CCCGCTGGTT
181 GGGCAATACT GCCTTTACCC ATGAGCTGGA AAGTCACAAT GGGGGGCAAG GGCTCCCAG
241 GGTGGTTATG TGCTTCCTTC AGGTGGC

FIG.8A

1 GAATTCCTTC CATTATACGT GACTTTTCTG AACTGTAGC CACCCTAGTG TCTCTAACTC
61 CCTCTGGAGT TTGTCAGCTT TGGTCTTTTC AAAGAGCAGG CTCTCTTCAA GTCCTTAAT
121 GCGGGCATGC TCCAGTTTGG TCTGCGTCTC AAGATCACCT TTGGTAATTG ATTCTTCTTC
181 AACCCGGAAC TGAAGGCTGG CTCTCACCT CTAGGCAGAG CAGGAATTCC GAGGTGGATG
241 TGTTAGATGT GAATGTCCGT GGCCAGATG GCTGCACCCC ATTGATGTTG GCTTCTCTCC
301 GAGGAGGCAG CTCAGATTG AGTGATGAAG ATGAAGATGC AGAGGACTGT TCTGCTAACA
361 TCATCACAGA CTTGGTCTAC CAGGGTGCCA GCCTCCAGAC CAGACAGACC GGAAGGTGA
421 GATGGCCCTG CACCTTGCGC CCCGCTACTC ACGGGCTGAT GCTGCCAAGC GTCTCCTGGA
481 TGCAGGTGCA GATGCCAATG CCCAGGACAA CATGGGCGCG TGTCCACTCC ATGCTGCAGT
541 GGCACGTGAT GCCAAGGTGT ATTCAGATCT GTTA

FIG.8B

1 TCCAGATTCT GATTCCGAAC CGAGTAACTG ATCTAGATGC CAGGATGAAT GATGGTACTA
61 CACCCCTGAT CCTGGCTGCC CGCCTGGCTG TGGAGGGAAT GGTGGCAGAA CTGATCAACT
121 GCCAAGCGGA TGTGAATGCA GTGGATGACC ATGGAAAATC TGCTCTTCAC TGGGCAGCTG
181 CTGTCAATAA TGTGGAGGCA ACTCTTTTGT TGTGAAAAA TGGGGCCAAC CGAGACATGC
241 AGGACAACAA GGAAGAGACA CCTCTGTTTC TTGCTGCCCCG GGAGGAGCTA TAAGC

FIG.8C

1 GAATTCCATT CAGGAGGAAA GGGTGGGGAG AGAAGCAGGC ACCCACTTTC CCGTGGCTGG
61 ACTCGTTCCT AGGTGGCTCC ACCGGCAGCT GTGACCGCCG CAGGTGGGGG CGGAGTGCCA
121 TTCAGAAAAT TCCAGAAAAG CCCTACCCCA ACTCGGACGG CAACGTCACA CCCGTGGGTA
181 GCAACTGGCA CACAAACAGC CAGCGTGTCT GGGGCACGGG GGGATGGCAC CCCCTGCAGG
241 CAGAGCTG

FIG.9A

1 CTAAAGGGAA CAAAAGCNGG AGCTCCACCG CGGGCGGCNC NGCTCTAGAA CTAGTGGANN
61 NCCCGGGCTG CAGGAATTCC GGGGACTGG GCTCGGGCTC AGAGCGGCGC TGTGGAAGAG
121 ATTCTAGACC GGGAGAACAA GCGAATGGCT GACAGCTGGC CTCCAAAGTC ACCAGGCTCA
181 AATCGCTCGC CCTGGACATC GAGGGATGCA GAGGATCAGA ACCGGTACCT GGATGGCATG
241 ACTCGGATTT ACAAGCATGA CCAGCCTGCT TACAGGGAGC GTGANNTTTT CACATGCAGT
301 CGACAGACAC GAGCTCTATG CAT

FIG.9B

| | | | |
|---|---------|---------|---------|
| 10 | 20 | 30 | 40 |
| * TGC CAG GAG GAC GCG GGC AAC AAG GTC TGC AGC CTG CAG TGC AAC AAC | * * * * | * * * * | * * * * |
| C Q E D A G N K V C S L Q C N N> | | | |
| 50 | 60 | 70 | 80 |
| * * * * | * * * * | * * * * | * * * * |
| CAC GCG TGC GGC TGG GAC GGC GGT GAC TGC TCC CTC AAC TTC AAT GAC | | | |
| H A C G G W D G G D C S L N F N D> | | | |
| 100 | 110 | 120 | 130 |
| * * * * | * * * * | * * * * | * * * * |
| CCC TGG AAG AAC TGC ACG CAG TCT CTG CAG TGC TGG AAG TAC TTC AGT | | | |
| P W K N C T Q S L Q C C W K Y F S> | | | |
| 150 | 160 | 170 | 180 |
| * * * * | * * * * | * * * * | * * * * |
| GAC GGC CAC TGT GAC AGC CAG TGC AAC TCA GCC GGC TGC CTC TTC GAC | | | |
| D G H C D S Q C N S A G C L F D> | | | |

FIG. 10A

| | | | | |
|----------------------------------|--------------------|-----------|-----------|---------------|
| 390 | 400 | 410 | 420 | 430 |
| * CCG GAG CAG CTG | * AAC AGC TTC | * CAC TTC | * CTG CGG | * GAG CTC AGC |
| P E Q L R N S | S F H F L R E L S> | | | |
| 440 | 450 | 460 | 470 | 480 |
| * CCG GTG CAC ACC AAC GTG | * TTC AAG CGT | * GAC GCA | * CAC GGC | * CAG |
| R V L H T N V | F K R D A H G Q> | | | |
| 490 | 500 | 510 | 520 | |
| * CAG ATG ATC TTC CCC | * TAC TAC GGC | * CGC GAG | * CTG CGC | * AAG CAC |
| Q M I F P Y Y G R E E L R K H> | | | | |
| 530 | 540 | 550 | 560 | 570 |
| * CCC ATC AAG CGT | * GCC GGC | * TGG GCC | * GCA CCT | * GAC GCC |
| P I K R A A E G W A A P D A L L> | | | | |

FIG. 10C

```

580      *      *      *      *      *      *      *      *      *      *
      GGC CAG GTG AAG GCC TCG CTG CTC CTC CCT GGT GGC AGC GAG GGT GGG CGG
      G  Q  V  K  A  S  L  L  L  L  L  L  L  L  L  L  L  L  L  L  L  L  L  L
      *      *      *      *      *      *      *      *      *      *
630      *      *      *      *      *      *      *      *      *      *
      CGG CCG AGG GAG CTG GAC CCC ATG GAC GTC CGC GGC TCC ATC GTC TAC
      R  R  R  E  L  L  D  P  M  D  V  R  G  S  I  V  Y>
      *      *      *      *      *      *      *      *      *      *
680      *      *      *      *      *      *      *      *      *      *
      CTG GAG ATT GAC AAC CCG CAG TGT GTG CAG GCC TCC TCG CAG TGC TTC
      L  E  I  D  N  R  Q  C  V  Q  A  S  S  Q  C  F>
      *      *      *      *      *      *      *      *      *      *
730      *      *      *      *      *      *      *      *      *      *
      CAG AGT GCC ACC GAC GTG GCC GCA TTC CTG GGA GCG CTC GCC TCG CTG
      Q  S  A  T  D  V  A  A  F  L  G  A  L  A  S  L>

```

FIG. 10D

FIG. 10E

| | | | |
|---|------|------|------|
| 970 | 980 | 990 | 1000 |
| * * * | * * | * * | * * |
| AAA GTG TCT GAG GCC AGC AAG AAG AAG CGG CGG GAG CCC CTC GGC GAG | | | |
| K V S E A S K K K R R E P L G E> | | | |
| 1010 | 1020 | 1030 | 1040 |
| * * | * * | * * | * * |
| GAC TCC GTG GGC CTC AAG CCC CTG AAG AAC GCT TCA GAC GGT GCC CTC | | | |
| D S V G L K P L K N A S D G A L> | | | |
| 1060 | 1070 | 1080 | 1090 |
| * * | * * | * * | * * |
| ATG GAC GAC AAC CAG AAT GAG TGG GGG GAC GAG CTG GAG ACC AAG | | | |
| M D D N Q N E W G D E D L E T K> | | | |
| 1110 | 1120 | 1130 | 1140 |
| * * | * * | * * | * * |
| AAG TTC CGG TTC GAG GAG CCC GTG GTT CTG CCT GAC CTG GAC GAC CAG | | | |
| K F R F E E P V V L P D L D D Q> | | | |

FIG.10F

| | | | | |
|---|------|------|------|------|
| 1160 | 1170 | 1180 | 1190 | 1200 |
| * * * | * * | * | * | * |
| ACA GAC CAC CGG CAG TGG ACT CAG CAC CTG GAT GCC GCT GAC CTG | | | | |
| T D H R Q Q W T Q Q H L D A A D L> | | | | |
| 1210 | 1220 | 1230 | 1240 | |
| * * | * | * | * | * |
| CGC ATG TCT GCC ATG GCC CCC ACA CCG CCC CAG GGT GAG GTT GAC GCC | | | | |
| R M S A A M A P T P P Q G E V D A> | | | | |
| 1250 | 1260 | 1270 | 1280 | 1290 |
| * * | * | * | * | * |
| GAC TGC ATG GAC GTC AAT GTC CGC GGG CCT GAT GGC TTC ACC CCG CTC | | | | |
| D C M D V N V R G P D G F T P L> | | | | |
| 1300 | 1310 | 1320 | 1330 | 1340 |
| * * | * | * | * | * |
| ATG ATC GCC TCC TGC AGC GGC GGC GGC CTG GAG ACG GGC AAC AGC GAG | | | | |
| M I A S C S G G G L E T G N S E> | | | | |

FIG.10G

| | | | | |
|---|---------|-------|------|------|
| 1350 | 1360 | 1370 | 1380 | 1390 |
| * GAA GAG GAG GAC GCG CCG GCC GTC ATC TTC GAC TTC ATC TAC CAG GGC | * * * * | * * * | * * | * |
| E E E D A P A V I S D F I Y Q G> | | | | |
| 1400 | 1410 | 1420 | 1430 | 1440 |
| * * * * | * * * | * * | * * | * |
| GCC AGC CTG CAC AAC CAG ACA GAC CGC ACG GGC GAG ACC GCC TTG CAC | | | | |
| A S L H N Q T D R T G E T A L HD> | | | | |
| 1450 | 1460 | 1470 | 1480 | |
| * * * * | * * * | * * | * * | |
| CTG GCC GCC CGC TAC TCA CGC TCT GAT GCC GCC AAG CGC CTG CTG GAG | | | | |
| L A A R Y S R S D A A K R L E> | | | | |
| 1490 | 1500 | 1510 | 1520 | 1530 |
| * * * * | * * * | * * | * * | * |
| GCC AGC GCA GAT GCC AAC ATC CAG GAG AAC ATG GGC CGC ACC CCG CTG | | | | |
| A S A D A N I Q D N M G R T P L> | | | | |

FIG. 10H

| | | | | |
|---|------------------------------------|------|------|------|
| 1540 | 1550 | 1560 | 1570 | 1580 |
| * CAT GCG GCT GTG TCT GCC GAC GCA CAA GGT GTC TTC CAG ATC CTG ATC | * H A A V S A D A Q G V F Q I L I> | | | |
| 1590 | 1600 | 1610 | 1620 | 1630 |
| * CGG AAC CGA GCC ACA GAC CTG GAT GCC CGC ATG CAT GAT GGC ACG ACG | * R N R A T D L D A R M H D G T T> | | | |
| 1640 | 1650 | 1660 | 1670 | 1680 |
| * CCA CTG ATC CTG GCT GCC CGC CTG GAT GCC GTG GAG GGC ATG CTG GAG GAC | * P L I L A A R L A V E G M L E D> | | | |
| 1690 | 1700 | 1710 | 1720 | |
| * CTC ATC AAC TCA CAC GCC GAC GTC AAC GCC GTA GAT GAC CTG GGC AAG | * L I N S H A D V N A V D D L G K> | | | |
| 1730 | 1740 | 1750 | 1760 | 1770 |
| * TCC GCC CTG CAC TGG GCC GCC GTC AAC AAT GTG GAT GCC GCA GTT | * S A L H W A A A V N N V D A A V> | | | |

FIG. 10I

| | | | | |
|---|-----------|-----------|-----------|-----------|
| 1780 | 1790 | 1800 | 1810 | 1820 |
| * GTG CTC CTG AAG AAC GGG GCT AAC AAA GAT ATG CAG AAC AAC AGG GAG | * * * * * | * * * * * | * * * * * | * * * * * |
| V L L K N G A N K D M Q N R E> | | | | |
| 1830 | 1840 | 1850 | 1860 | 1870 |
| * * * * * | * * * * * | * * * * * | * * * * * | * * * * * |
| GAG ACA CCC CTG TTT CTG GCC GCC CGG GAG GGC AGC TAC GAG ACC GCC | | | | |
| E T P L F L A A R E G S Y E T A> | | | | |
| 1880 | 1890 | 1900 | 1910 | 1920 |
| * * * * * | * * * * * | * * * * * | * * * * * | * * * * * |
| AAG GTG CTG CTG GAC CAC TTT GCC AAC CGG GAC ATC ACG GAT CAT ATG | | | | |
| K V L L D H F A N R D I T D H M> | | | | |
| 1930 | 1940 | 1950 | 1960 | |
| * * * * * | * * * * * | * * * * * | * * * * * | |
| GAC CGC CTG CCG GAC ATC GCA CAG GAG CGC ATG CAT CAC GAC ATC | | | | |
| D R L P R D I A Q E R M H D I> | | | | |

FIG.10J

| | | | | | |
|---|-------|------|------|------|---|
| 1970 | 1980 | 1990 | 2000 | 2010 | |
| * GTG AGG CTG CTG GAC GAG TAC AAC CTG GTG CGC AGC CCG CAG CTG CAC | * * * | * * | * * | * * | * |
| V R L L D E Y N L V R S P Q L H> | | | | | |
| 2020 | 2030 | 2040 | 2050 | 2060 | |
| * * * | * * | * * | * * | * | |
| GGA GCC CCG CTG GGG GGC AGC CCC ACC CTG TCG CCC CCG CTC TGC TCG | * * * | * * | * * | * | |
| G A P L G G T P T L S P P L C S> | | | | | |
| 2070 | 2080 | 2090 | 2100 | 2110 | |
| * * * | * * | * * | * * | * | |
| CCC AAC GGC TAC CTG GGC AGC CTC AAG CCC GGC GTG CAG GGC AAG AAG | | | | | |
| P N G Y L L G S L K P P V Q G K K> | | | | | |
| 2120 | 2130 | 2140 | 2150 | 2160 | |
| * * * | * * | * * | * * | * | |
| GTC CGC AAG CCC AGC AGC AAA GGC CTG GCC TGT GGA AGC AAG GAG GCC | | | | | |
| V R K P S S K G G L A C G S K E A> | | | | | |

FIG. 10K

| | | | |
|---|---------|---------|---------|
| 2170 | 2180 | 2190 | 2200 |
| * AAG GAC CTC AAG GCA CGG AGG AAG AAG TCC CAG GAT GGC AAG GGC TGC | * * * * | * * * * | * * * * |
| K D L K A R R K K S Q D G K G C> | | | |
| 2210 | 2220 | 2230 | 2240 |
| * * * * | * * * * | * * * * | * * * * |
| CTG CTG GAC AGC TCC GGC ATG CTC TCG CCC GTG GAC TCC CTG GAG TCA | | | |
| L L D S S G M L S P V D S L E S> | | | |
| 2260 | 2270 | 2280 | 2290 |
| * * * * | * * * * | * * * * | * * * * |
| CCC CAT GGC TAC CTG TCA GAC GTG GCC TCG CCG CCA CTG CTG CCC TCC | | | |
| P H G Y L S D V A S P P L L P S> | | | |
| 2310 | 2320 | 2330 | 2340 |
| * * * * | * * * * | * * * * | * * * * |
| CCG TTC CAG CAG TCT CCG TCC GTG CCC CTC AAC CAC CTG CCT GGG ATG | | | |
| P F Q Q S S V P L N H L P G M> | | | |

FIG.10L

| | | | | |
|---|------|------|------|------|
| 2550 | 2560 | 2570 | 2580 | 2590 |
| * ACC AGT TTG AAT GGT CAA TGC GAG TGG CTG TCC CGG CTG CAG AGC GGC | * | * | * | * |
| T S L N G Q C E W L S R L Q S G> | | | | |
| 2600 | 2610 | 2620 | 2630 | 2640 |
| * ATG GTG CCG AAC CAA TAC AAC CCT CTG CCG GGG AGT GTG GCA CCA GGC | * | * | * | * |
| M V P N Q Y N P L R G S V A P G> | | | | |
| 2650 | 2660 | 2670 | 2680 | |
| * CCC CTG AGC ACA CAG GCC CCC TCC CTG CAG CAT GGC ATG GTA GGC CCG | * | * | * | * |
| P L S T Q A P S L Q H G M V G P> | | | | |
| 2690 | 2700 | 2710 | 2720 | 2730 |
| * CTG CAC AGT AGC CTT GCT GCC AGC GCC CTG TCC CAG ATG ATG AGC TAC | * | * | * | * |
| L H S S L A A S A L S Q M M S Y> | | | | |

FIG. 10N

| | | | | |
|---|---|------|------|------|
| 2360 | 2370 | 2380 | 2390 | 2400 |
| * CCC GAC ACC CAC CTG GGC ATC GGG CAC CTG AAC GTG GCG GCC AAG CCC | | | | |
| P D T H L G I G H L N V A A K P> | | | | |
| | 2410 | 2420 | 2430 | 2440 |
| | * GAG ATG GCG GCG CTG GGT GGG GGC GGC CTG GCG TTT GAG ACT GGC | | | |
| E M A A L G G G G G R L A F E T G> | | | | |
| 2450 | 2460 | 2470 | 2480 | 2490 |
| * CCA CCT CGT CTC TCC CAC CTG CCT CTG GCG TCT GCG ACC AGC ACC GTC | | | | |
| P P R L S H L P V A S G T S T V> | | | | |
| 2500 | 2510 | 2520 | 2530 | 2540 |
| * CTG GGC TCC AGC AGC GGA GGG GCG CTG AAT TTC ACT GTG GGC GGG TCC | | | | |
| L G S S S G G A L N F T V G G S> | | | | |

FIG.10M

| | | | | |
|--|-----------|-----------|-----------|-----------|
| 2740 | 2750 | 2760 | 2770 | 2780 |
| * CAG GGC CTG CCC AGC ACC CGG CTG GCC ACC CAG CCT CAC CTG GTG CAG Q G L P S T R L A T Q P H L V Q> | * 2750 | * 2760 | * 2770 | * 2780 |
| 2790 | 2800 | 2810 | 2820 | 2830 |
| * ACC CAG CAG GTG CAG CCA CAA AAC TTA CAG ATG CAG CAG AAC CTG T Q Q V Q P Q Q N L Q M Q Q N L> | * 2800 | * 2810 | * 2820 | * 2830 |
| 2840 | 2850 | 2860 | 2870 | 2880 |
| * CAG CCA GCA AAC ATC CAG CAG CAG CAA AGC CTG CAG CCG CCA CCA CCA Q P A N I Q Q Q Q S L Q P P P> | * 2850 | * 2860 | * 2870 | * 2880 |
| 2890 | 2900 | 2910 | 2920 | |
| * CCA CCA CAG CCG CAC CTT GGC GTG AGC TCA GCA GCC AGC GGC CAC CTG P P Q P H L G V S S A A S G H L> | * 2900 | * 2910 | * 2920 | |
| 2930 | 2940 | 2950 | 2960 | 2970 |
| * GGC CGG AGC TTC CTG AGT GGA GAG CCG AGC CAG GCA GAC GTG CAG CCA G R S F L S G G E P S Q A D V Q P> | * 2940 | * 2950 | * 2960 | * 2970 |

FIG.100

| | | | | |
|---|------|------|------|------|
| 2980 | 2990 | 3000 | 3010 | 3020 |
| CTG GGC CCC AGC AGC CTG GCG GTG CAC ACT ATT CTG CCC CAG GAG AGC | | | | |
| L G P S S L A V H T I L P Q E S> | | | | |
| 3030 | 3040 | 3050 | 3060 | 3070 |
| CTG GGC CTG CCC ACG TCG TCG CTG CCA TCC TCG CTG GTC CCA CCC GTG ACC | | | | |
| P A L P T S S L P S S L V P P V T> | | | | |
| 3080 | 3090 | 3100 | 3110 | 3120 |
| GCA GCC CAG TTC CTG ACG CCC CCC TCG CAG CAC AGC TAC TCC TCG CCT | | | | |
| A A Q F L T P P S Q H S Y S P> | | | | |

FIG.10P

| | | | | |
|---|---------|------|------|------|
| 3130 | 3140 | 3150 | 3160 | |
| * GTG GAC AAC ACC CCC AGC CAC CAG CTA CAG GTG CCT GTT CCT GTA ATG | * * * * | | | |
| V D N T P S H Q L Q V P V P V | | | | |
| 3170 | 3180 | 3190 | 3200 | 3210 |
| * GTA ATG ATC CGA TCT TCG GAT CCT TCT AAA GGC TCA ATT TTG ATC | * * * * | | | |
| V M I R S S D P S S I L | | | | |
| 3220 | 3230 | | | |
| * GAA GCT CCC GAC TCA TGG | * * | | | |
| E A P D S W> | | | | |

FIG.10Q

| | |
|---|-----|
| G GAG GTG GAT GTG TTA GAT GTG AAT GTC CGT GGC CCA GAT GGC TGC Glu Val Asp Val Leu Asp Val Asn Val Arg Gly Pro Asp Gly Cys 1 5 10 15 | 46 |
| ACC CCA TTG ATG TTG GCT TCT CTC CGA GGA GGC AGC TCA GAT TTG AGT Thr Pro Leu Met Leu Ala Ser Leu Arg Gly Gly Ser Ser Asp Leu Ser 20 25 50 | 94 |
| GAT GAA GAT GAA GAT GCA GAG GAC TCT TCT GCT AAC ATC ATC ACA GAC Asp Glu Asp Glu Asp Ala Glu Asp Ser Ser Ala Asn Ile Ile Thr Asp 35 40 45 | 142 |
| TTG GTC TAC CAG GGT GCC AGC CTC CAG GCC CAG ACA GAC CGG ACT GGT Leu Val Tyr Gln Gly Ala Ser Leu Gln Ala Gln Thr Asp Arg Thr Gly 50 55 60 | 190 |
| GAG ATG GCC CTG CAC CTT GCA GCC CGC TAC TCA CGG GCT GAT GCT GCC Glu Met Ala Leu His Leu Ala Ala Arg Tyr Ser Arg Ala Asp Ala Ala 65 70 75 | 238 |
| AAG CGT CTC CTG GAT GCA GGT GCA GAT GCC AAT GCC CAG GAC AAC ATG Lys Arg Leu Leu Asp Ala Gly Ala Asp Ala Asn Ala Gln Asp Asn Met 80 85 90 95 | 286 |
| GGC CGC TGT CCA CTC CAT GCT GCA GTG GCA GCT GAT GCC CAA GGT GTC Gly Arg Cys Pro Leu His Ala Ala Val Ala Ala Asp Ala Gln Gly Val 100 105 110 | 334 |
| TTC CAG ATT CTG ATT CGC AAC CGA GTA ACT GAT CTA GAT GCC AGG ATG Phe Gln Ile Leu Ile Arg Asn Arg Val Thr Asp Leu Asp Ala Arg Met 115 120 125 | 382 |
| AAT GAT GGT ACT ACA CCC CTG ATC CTG GCT GCC CGC CTG GCT GTG GAG Asn Asp Gly Thr Thr Pro Leu Ile Leu Ala Ala Arg Leu Ala Val Glu 130 135 140 | 430 |

FIG.11A

| | |
|---|-----|
| GGA ATG GTG GCA GAA CTG ATC AAC TGC CAA GCG GAT GTG AAT GCA GTG | 478 |
| Gly Met Val Ala Glu Leu Ile Asn Cys Gln Ala Asp Val Asn Ala Val | |
| 145 150 155 | |
| GAT GAC CAT GGA AAA TCT GCT CTT CAC TGG GCA GCT GCT GTC AAT AAT | 526 |
| Asp Asp His Gly Lys Ser Ala Leu His Trp Ala Ala Ala Val Asn Asn | |
| 160 165 170 175 | |
| GTG GAG GCA ACT CTT TTG TTG TTG AAA AAT GGG GCC AAC CGA GAC ATG | 574 |
| Val Glu Ala Thr Leu Leu Leu Lys Asn Gly Ala Asn Arg Asp Met | |
| 180 185 190 | |
| CAG GAC AAC AAG GAA GAG ACA CCT CTG TTT CTT GCT GCC CGG GAG GGG | 622 |
| Gln Asp Asn Lys Glu Glu Thr Pro Leu Phe Leu Ala Ala Arg Glu Gly | |
| 195 200 205 | |
| AGC TAT GAA GCA GCC AAG ATC CTG TTA GAC CAT TTT GCC AAT CGA GAC | 670 |
| Ser Tyr Glu Ala Ala Lys Ile Leu Leu Asp His Phe Ala Asn Arg Asp | |
| 210 215 220 | |
| ATC ACA GAC CAT ATG GAT CGT CTT CCC CGG GAT GTG GCT CGG GAT CGC | 718 |
| Ile Thr Asp His Met Asp Arg Leu Pro Arg Asp Val Ala Arg Asp Arg | |
| 225 230 235 | |
| ATG CAC CAT GAC ATT GTG CGC CTT CTG GAT GAA TAC AAT GTG ACC CCA | 766 |
| Met His His Asp Ile Val Arg Leu Leu Asp Glu Tyr Asn Val Thr Pro | |
| 240 245 250 255 | |
| AGC CCT CCA GGC ACC GTG TTG ACT TCT GCT CTC TCA CCT GTC ATC TGT | 814 |
| Ser Pro Pro Gly Thr Val Leu Thr Ser Ala Leu Ser Pro Val Ile Cys | |
| 260 265 270 | |
| GGG CCC AAC AGA TCT TTC CTC AGC CTG AAG CAC ACC CCA ATG GGC AAG | 862 |
| Gly Pro Asn Arg Ser Phe Leu Ser Leu Lys His Thr Pro Met Gly Lys | |
| 275 280 285 | |

FIG.11B

| | |
|---|------|
| AAG TCT AGA CGG CCC AGT GCC AAG AGT ACC ATG CCT ACT AGC CTC CCT | 910 |
| Lys Ser Arg Arg Pro Ser Ala Lys Ser Thr Met Pro Thr Ser Leu Pro | |
| 290 295 300 | |
| AAC CTT GCC AAG GAG GCA AAG GAT GCC AAG GGT AGT AGG AGG AAG AAG | 958 |
| Asn Leu Ala Lys Glu Ala Lys Asp Ala Lys Gly Ser Arg Arg Lys Lys | |
| 305 310 315 | |
| TCT CTG AGT GAG AAG GTC CAA CTG TCT GAG AGT TCA GTA ACT TTA TCC | 1006 |
| Ser Leu Ser Glu Lys Val Gln Leu Ser Glu Ser Ser Val Thr Leu Ser | |
| 320 325 330 335 | |
| CCT GTT GAT TCC CTA GAA TCT CCT CAC ACG TAT GTT TCC GAC ACC ACA | 1054 |
| Pro Val Asp Ser Leu Glu Ser Pro His Thr Tyr Val Ser Asp Thr Thr | |
| 340 345 350 | |
| TCC TCT CCA ATG ATT ACA TCC CCT GGG ATC TTA CAG GCC TCA CCC AAC | 1102 |
| Ser Ser Pro Met Ile Thr Ser Pro Gly Ile Leu Gln Ala Ser Pro Asn | |
| 355 360 365 | |
| CCT ATG TTG GCC ACT GCC GCC CCT CCT GCC CCA GTC CAT GCC CAG CAT | 1150 |
| Pro Met Leu Ala Thr Ala Ala Pro Pro Ala Pro Val His Ala Gln His | |
| 370 375 380 | |
| GCA CTA TCT TTT TCT AAC CTT CAT GAA ATG CAG CCT TTG GCA CAT GGG | 1198 |
| Ala Leu Ser Phe Ser Asn Leu His Glu Met Gln Pro Leu Ala His Gly | |
| 385 390 395 | |
| GCC AGC ACT GTG CTT CCC TCA GTG AGC CAG TTG CTA TCC CAC CAC CAC | 1246 |
| Ala Ser Thr Val Leu Pro Ser Val Ser Gln Leu Leu Ser His His His | |
| 400 405 410 415 | |
| ATT GTG TCT CCA GGC AGT GGC AGT GCT GGA AGC TTG AGT AGG CTC CAT | 1294 |
| Ile Val Ser Pro Gly Ser Gly Ser Ala Gly Ser Leu Ser Arg Leu His | |
| 420 425 430 | |
| CCA GTC CCA GTC CCA GCA GAT TGG ATG AAC CGC ATG GAG GTG AAT GAG | 1342 |
| Pro Val Pro Val Pro Ala Asp Trp Met Asn Arg Met Glu Val Asn Glu | |
| 435 440 445 | |

FIG.11C

| | |
|---|------|
| ACC CAG TAC AAT GAG ATG TTT GGT ATG GTC CTG GCT CCA GCT GAG GGC | 1390 |
| Thr Gln Tyr Asn Glu Met Phe Gly Met Val Leu Ala Pro Ala Glu Gly | |
| 450 455 460 | |
| ACC CAT CCT GGC ATA GCT CCC CAG AGC AGG CCA CCT GAA GGG AAG CAC | 1438 |
| Thr His Pro Gly Ile Ala Pro Gln Ser Arg Pro Pro Glu Gly Lys His | |
| 465 470 475 | |
| ATA ACC ACC CCT CGG GAG CCC TTG CCC CCC ATT GTG ACT TTC CAG CTC | 1486 |
| Ile Thr Thr Pro Arg Glu Pro Leu Pro Pro Ile Val Thr Phe Gln Leu | |
| 480 485 490 495 | |
| ATC CCT AAA GGC AGT ATT GCC CAA CCA GCG GGG GCT CCC CAG CCT CAG | 1534 |
| Ile Pro Lys Gly Ser Ile Ala Gln Pro Ala Gly Ala Pro Gln Pro Gln | |
| 500 505 510 | |
| TCC ACC TGC CCT CCA GCT GTT GCG GGC CCC CTG CCC ACC ATG TAC CAG | 1582 |
| Ser Thr Cys Pro Pro Ala Val Ala Gly Pro Leu Pro Thr Met Tyr Gln | |
| 515 520 525 | |
| ATT CCA GAA ATG GCC CGT TTG CCC AGT GTG GCT TTC CCC ACT GCC ATG | 1630 |
| Ile Pro Glu Met Ala Arg Leu Pro Ser Val Ala Phe Pro Thr Ala Met | |
| 530 535 540 | |
| ATG CCC CAG CAG GAC GGG CAG GTA GCT CAG ACC ATT CTC CCA GCC TAT | 1678 |
| Met Pro Gln Gln Asp Gly Gln Val Ala Gln Thr Ile Leu Pro Ala Tyr | |
| 545 550 555 | |
| CAT CCT TTC CCA GCC TCT GTG GGC AAG TAC CCC ACA CCC CCT TCA CAG | 1726 |
| His Pro Phe Pro Ala Ser Val Gly Lys Tyr Pro Thr Pro Pro Ser Gln | |
| 560 565 570 575 | |
| CAC AGT TAT GCT TCC TCA AAT GCT GCT GAG CGA ACA CCC AGT CAC AGT | 1774 |
| His Ser Tyr Ala Ser Ser Asn Ala Ala Glu Arg Thr Pro Ser His Ser | |
| 580 585 590 | |
| GGT CAC CTC CAG GGT GAG CAT CCC TAC CTG ACA CCA TCC CCA GAG TCT | 1822 |
| Gly His Leu Gln Gly Glu His Pro Tyr Leu Thr Pro Ser Pro Glu Ser | |
| 595 600 605 | |

FIG.11D

| | |
|---|------|
| CCT GAC CAG TGG TCA AGT TCA TCA CCC CAC TCT GCT TCT GAC TGG TCA Pro Asp Gln Trp Ser Ser Ser Ser Pro His Ser Ala Ser Asp Trp Ser 610 615 620 | 1870 |
| GAT GTG ACC ACC AGC CCT ACC CCT GGG GGT GCT GGA GGA GGT CAG CGG Asp Val Thr Thr Ser Pro Thr Pro Gly Gly Ala Gly Gly Gly Gln Arg 625 630 635 | 1918 |
| GGA CCT GGG ACA CAC ATG TCT GAG CCA CCA CAC AAC AAC ATG CAG GTT Gly Pro Gly Thr His Met Ser Glu Pro Pro His Asn Asn Met Gln Val 640 645 650 655 | 1966 |
| TAT GCG TGAGAGAGTC CACCTCCAGT GTAGAGACAT AACTGACTTT TGTAATGCT Tyr Ala | 2022 |
| GCTGAGGAAC AAATGAAGGT CATCCGGGAG AGAAATGAAG AAATCTCTGG AGCCAGCTTC | 2082 |
| TAGAGGTAGG AAAGAGAAGA TGTTCCTATT CAGATAATGC AAGAGAAGCA ATTCGTCAGT | 2142 |
| TTCACTGGGT ATCTGCAAGG CTTATTGATT ATTCTAATCT AATAAGACAA GTTTGTGGAA | 2202 |
| ATGCAAGATG AATACAAGCC TTGGGTCCAT GTTTACTCTC TTCTATTTGG AGAATAAGAT | 2262 |
| GGATGCTTAT TGAAGCCCAG ACATTCTTGC AGCTTGGACT GCATTTTAAG CCCTGCAGGC | 2322 |
| TTCTGCCATA TCCATGAGAA GATTCTACAC TAGCGTCCTG TTGGGAATTA TGCCCTGGAA | 2382 |
| TTCTGCCTGA ATTGACCTAC GCATCTCCTC CTCCTTGGAC ATTCTTTTGT CTTCAATTTGG | 2442 |
| TGCTTTTGGT TTTGCACCTC TCCGTGATTG TAGCCCTACC AGCATGTTAT AGGGCAAGAC | 2502 |
| CTTTGTGCTT TTGATCATTG TGGCCCATGA AAGCAACTTT GGTCTCCTTT CCCCTCCTGT | 2562 |
| CTTCCCGGTA TCCCTTGGAG TCTCACAAGG TTTACTTTGG TATGGTTCTC AGCACAACC | 2622 |
| TTTCAAGTAT GTTGTCTTCT TGGAAAATGG ACATACTGTA TTGTGTTCTC CTGCATATAT | 2682 |
| CATTCCTGGA GAGAGAAGGG GAGAAGAATA CTTTCTTCA ACAAATTTTG GGGCAGGAG | 2742 |
| ATCCCTTCAA GAGGCTGCAC CTTAATTTTT CTTGTCTGTG TGCAGGTCTT CATATAAAT | 2802 |

FIG.11E

| | |
|---|------|
| TTACCAGGAA GAAGGGTGTG AGTTTGTGT TTTTCTGTGT ATGGGCCTGG TCAGTGTA | 2862 |
| TTTTATCCT TGATAGTCTA GTTACTATGA CCCTCCCCAC TTTTAAAA CCAGAAAAAG | 2922 |
| GTTTGAATG TTGGAATGAC CAAGAGACAA GTTAACTCGT GCAAGAGCCA GTTACCCACC | 2982 |
| CACAGGTCCC CCTACTTCCT GCCAAGCATT CCATTGACTG CCTGTATGGA ACACATTGT | 3042 |
| CCCAGATCTG AGCATTCTAG GCCTGTTTCA CTCCTCACC CAGCATATGA AACTAGTCTT | 3102 |
| AACTGTTGAG CCTTTCCTTT CATATCCACA GAAGACACTG TCTCAAATGT TGTACCCTTG | 3162 |
| CCATTTAGGA CTGAACTTTC CTTAGCCCAA GGGACCCAGT GACAGTTGTC TTCCGTTTGT | 3222 |
| CAGATGATCA GTCTCTACTG ATTATCTTGC TGCTTAAAGG CCTGCTCACC AATCTTTCTT | 3282 |
| TCACACCGTG TGGTCCGTGT TACTGGTATA CCCAGTATGT TCTCACTGAA GACATGGACT | 3342 |
| TTATATGTTT AAGTGCAGGA ATTGGAAAGT TGGACTTGTT TTCTATGATC CAAAACAGCC | 3402 |
| CTATAAGAAG GTTGGAAAAG GAGGAACTAT ATAGCAGCCT TTGCTATTTT CTGCTACCAT | 3462 |
| TTCTTTTCCT CTGAAGCGGC CATGACATTC CCTTTGGCAA CTAACGTAGA AACTCAACAG | 3522 |

FIG.11F

| | |
|--|------|
| AACATTTTCC TTTCTAGAG TCACCTTTTA GATGATAATG GACAACTATA GACTTGCTCA | 3582 |
| TTGTTCAGAC TGATTGCCCC TCACCTGAAT CCACTCTCTG TATTCATGCT CTTGGCAATT | 3642 |
| TCTTTGACTT TCTTTTAAGG GCAGAAGCAT TTTAGTTAAT TGTAGATAAA GAATAGTTTT | 3702 |
| CTTCCTCTTC TCCTTGGGCC AGTTAATAAT TGGTCCATGG CTACACTGCA ACTTCCGTCC | 3762 |
| AGTGCTGTGA TGCCCATGAC ACCTGCAAAA TAAGTTCTGC CTGGGCATTT TGTAGATATT | 3822 |
| AACAGGTGAA TTCCCGACTC TTTTGGTTTG AATGACAGTT CTCATTCCCTT CTATGGCTGC | 3882 |
| AAGTATGCAT CAGTGCTTCC CACTTACCTG ATTTGTCTGT CGGTGGCCCC ATATGGAAAC | 3942 |
| CCTGCGTGTC TGTTGGCATA ATAGTTTACA AATGGTTTTT TCAGTCCTAT CCAAATTTAT | 4002 |
| TGAACCAACA AAAATAATTA CTCTGCCCT GAGATAAGCA GATTAAGTTT GTTCATTCTC | 4062 |
| TGCTTTATTC TCTCCATGTG GCAACATTCT GTCAGCCTCT TTCATAGTGT GCAAACATTT | 4122 |
| TATCATTCTA AATGGTGACT CTCTGCCCTT GGACCCATTT ATTATTCACA GATGGGGAGA | 4182 |
| ACCTATCTGC ATGGACCCTC ACCATCCTCT GTGCAGCACA CACAGTGCAG GGAGCCAGTG | 4242 |
| GCGATGGCGA TGACTTTCTT CCCCTG | 4268 |

FIG. 11G

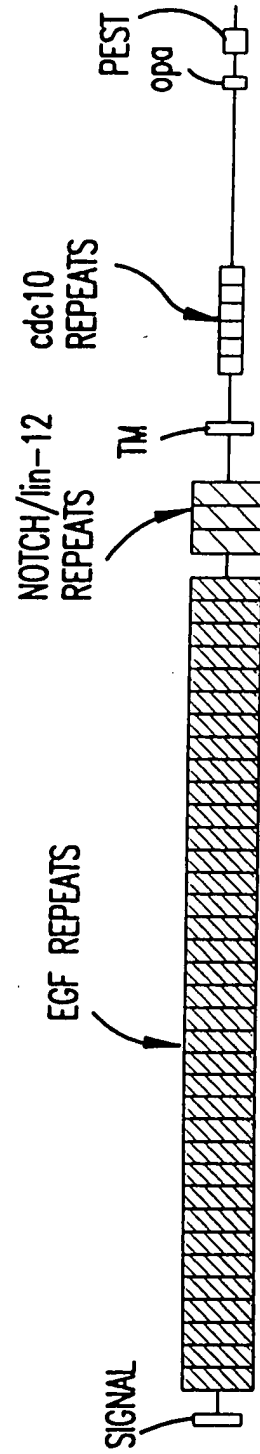


FIG.12A

| | | |
|----------------|-------|------------------------------------|
| hN5k | ----- | ITSPGIDJASPNPML--ATAAPPAPVHAQHALSF |
| TAN-1 | 2218 | ----- |
| rat NOTCH | 2209 | ----- |
| XENDPUS NOTCH | 2214 | ----- |
| DRUSDOPH NOTCH | 2285 | ----- |

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CK-II

| | | |
|----------------|-------|---|
| hN5k | ----- | PLAHGASTVLPVSQLLSHHHIVSPGS--GSAGSLSRLHPVPVPADW--MNRMEVNEIQYNEMFGMVLAPAEG--THPGI |
| TAN-1 | 2250 | ----- |
| rat NOTCH | 2242 | ----- |
| XENDPUS NOTCH | 2247 | ----- |
| DRUSDOPH NOTCH | 2390 | ----- |

| | | |
|----------------|-------|---------------------------------|
| hN5k | ----- | HITTPRELP--IV--TFQLIPKGSIAQAG-- |
| TAN-1 | 2354 | ----- |
| rat NOTCH | 2344 | ----- |
| XENDPUS NOTCH | 2343 | ----- |
| DRUSDOPH NOTCH | 2495 | ----- |

| | | |
|----------------|-------|---|
| hN5k | ----- | SVAFPTAMPQQDQVAQTILPAYHPFPASVGKYHTPPSQHSYASSNAERTPSHSGHLQGEHPYLTPSPESPDQWSSSSPHSA--SDWSDVTTSPIT |
| TAN-1 | 2448 | ----- |
| rat NOTCH | 2423 | ----- |
| XENDPUS NOTCH | 2416 | ----- |
| DRUSDOPH NOTCH | 2599 | ----- |

PEST-CONTAINING REGION

FIG.12C

| | | Potential signal cleavage site | | | | | | | | | |
|--------|------------|--------------------------------|------------|------------|------------|------------|----|-------|-----|----|-------|
| hum N | MP | ----- | ----- | ----- | ALRPAL | LWALLALWLC | CA | ----- | APA | HA | ----- |
| TAN-1 | MP | ----- | ----- | ----- | PL | LAPLLCLALL | PA | ----- | LAA | RG | ----- |
| Xen N | MD | ----- | ----- | ----- | ----- | RIGLAVLLCS | LP | ----- | VLT | QG | ----- |
| Dros N | MQSQSRRRS | RAPNTWICFW | INKMHAVASL | PASLPLLLLT | LAFANLPNIV | RGTDALVAA | | | | | |
| hum N | MLGKATCRCA | SGFTGEDCQY | STSHPCFVSR | PCLNGGTCHM | LSRDT-YECT | CQVGFTGKEC | | | | | |
| Tan-1 | GVADYACSCA | LGFSGPLCLT | PLDNAC-LTN | PCRNGGCDL | LT-LTEYKCR | CPPGWSGKSC | | | | | |
| Xen N | NAIDFICHCP | VGFTDKVCLT | PVDNAC-VNN | PCRNGGTCEL | LNSVTEYKCR | CPPGWTGDSC | | | | | |
| Dros N | GRPGISCKCP | LGFDSELCEI | AVPNAC-DHV | TCLNGGTQCL | KT-LEEYTC | CANGYTGERC | | | | | |
| hum N | NLPGSYQCQC | PQFTGQYCD | SLYVPCAPSP | CVNGGTCRQT | GDFTFECNCL | PGFEGSTCER | | | | | |
| TAN-1 | NEVGSYRCVC | RATHTGPNCE | RPYVPCSPSP | CQNGGTCRPT | GDVTHECACL | PGFTGQNCEE | | | | | |
| Xen N | NEFGSYRCTC | QNRFTGRNCD | EPYVPCNPSP | CLNGGTCRQT | DDTSYDCTCL | PGFSGQNCEE | | | | | |
| Dros N | NTHGSYQCMC | PTGYTGKDCD | TKYNPCSPSP | CQAGICRSN | G-LSYECKCP | KGFEKNCEE | | | | | |

EGF-like Repeats

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| QCRDGYEPCV | NEGMCVTYHN | GTGYCKPEG | FLGEYCQHRD | PCE-KNRCQN | GGTC-VAQA | 83 |
| RCSQPGETCL | NGGKCEA-AN | GTEACVCGGA | FVGPRCQDPN | PCL-STPCKN | AGTCHVDDR | 80 |
| RCTQTAEMCL | NGGRCEMPG | GTGVCLCGNL | YGERCQFPN | PCTIKNQCMN | FGTCEPVLQG | 90 |
| SCTSVG-CQ | NGGTCVTQLN | GKTYCACDSH | YVDYCEHRN | PCN-SMRCQN | GGTCQVTFRN | 117 |
| QWTDACLSP | CANGSTCTTV | -ANQFSCKC | LTGFTGQKCE | TDVNEC-DIP | GHCQHGGTCL | 199 |
| QQADPCASNP | CANGGQCLPF | -EASYICH | PPSFHGPTCR | QDVNECGQKP | RLCRHGGTCH | 196 |
| QQADPCASNP | CANGGKCLPF | -EIQYICKC | PPGFHGATCK | QDINEC-S-Q | NPCKNGGQC | 195 |
| ETKNLCASSP | CRNGATCTAL | AGSSSFTCS | PPGFTGDTCS | YDIEEC-Q-S | NPCKYGGICV | 233 |
| NIDDCPNHRC | QNGGVCVDGV | NTYNCRCPPO | WTGQFCTEDV | DECLLPNA- | CQNGGTCANR | 318 |
| NIDDCPGNNC | KNGGACVDGV | NTYNCPPE | WTGQYCTEDV | DECQLMPNA- | CQNGGTCHNT | 315 |
| NIDDCPSNNC | RNGGTCVDGV | NTYNQCPOD | WTGQYCTEDV | DECQLMPNA- | CQNGGTCHNT | 314 |
| NYDDCLGHLC | QNGGTCIDGI | SDYTCRCPN | FTGRFCQDDV | DECAQRDHPV | CQNGATCTNT | 352 |

FIG.13A

| | | | | | | |
|--------|------------|------------|------------|------------|------------|------------|
| hum N | NGGYGCVCVN | GWSGDDCSEN | IDDCAFASCT | PGSTCIDRVA | SFSCMCPEGK | AGLLCHLDDA |
| TAN-1 | HGGYNVCVNV | GWTGEDCSEN | IDDCASAACT | HGATCHDRVA | SFYCECPHGR | TGLLCHLNDA |
| Xen N | YGGYNVCVNV | GWTGEDCSEN | IDDCANAACH | SGATCHDRVA | SFYCECPHGR | TGLLCHLDNA |
| Dros N | HGSYSICVNV | GWAGLDCSNN | TDDCKQAACF | YGATCIDGVG | SFYCQCTKGG | TGLLCHLDDA |

| | | | | | | |
|--------|------------|------------|------------|------------|------------|------------|
| hum N | AFHCECLKGY | AGPRCEMDIN | ECHSDPCQND | ATCLDKIGGF | TCLCMPGFKG | VHCELEINEC |
| TAN-1 | SFECQCLQGY | TGPRCEIDVN | ECVSNPCQND | ATCLDQIGEF | QCMCMGYEG | VHCEVNTDEC |
| Xen N | SFQCNCPOGY | AGPRCEIDVN | ECLSNPCQND | STCLDQIGEF | QCICMPGYEG | LYCETNIDEC |
| Dros N | SYRCNCSQGF | TGPRCETNIN | ECESHPQCNE | GSLDDPGTF | RCVCMGFTG | TQCEIDIDEC |

| | | | | | | |
|--------|------------|------------|------------|------------|------------|------------|
| hum N | ATGFTGVLCE | ENIDNCDDP | CHHGQCQDGI | DSYTCICNPG | YMGATCSDQI | DECYSSPCLN |
| TAN-1 | TEGYTGTHCE | VDIDECDDP | CHYGSKDGV | ATFTCLCRPG | YTGHHCETNI | NECSSQPCRL |
| Xen N | TEGFTGRHCE | QDINECIPDP | CHYGTCKDGI | ATFTCLCRPG | YTGRLCDNDI | NECLSKPCLN |
| Dros N | PPGYGTSC | ININDCDSNP | CHRGKCIDDV | NSFKCLCDPG | YTGYYCQKQI | NECESNPCQF |

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| CISNPCHKGA | LCDTNPLNGQ | YICTCPQGYK | GADCTEDVDE | CAMANSNPCE | HAGKCVNTDG | 438 |
| CISNPCNEGS | NCDTNPVNGK | AICTCPSGYT | GPACSQDVDE | CSLG-ANPCE | HAGKCINTLG | 434 |
| CISNPCNEGS | NCDTNPVNGK | AICTCPPGYT | GPACNNDVDE | CSLG-ANPCE | HGGRCTNTLG | 433 |
| CTSNPCHADA | ICDTSPINGS | YACSCATGYK | GVDCSEDIDE | CDQG-SPCE | HNGICVNTPG | 470 |

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| QSNPCVNNQ | CVDKVNRFQC | LCPPGFTGPV | CQIDIDDCSS | TPCLNGAKCI | DHPNGYECQC | 558 |
| ASSPCLHNGR | CLDKINEFQC | ECPTGFTGHL | CQYDVECAS | TPCKNGAKCL | DGPNTYTCVC | 554 |
| ASNPCLHNGK | CIDKINEFRC | DCPTGFSGNL | CQHDFDECTS | TPCKNGAKCL | DGPNSYTCQC | 553 |
| QSNPCLNDGT | CHDKINGFKC | SCALGFTGAR | CQINIDDCQS | QPCRNRGICH | DSIAGYSCEC | 590 |

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| DGRCIDLUNG | YQCNCQPGTS | GVNCEINFDD | CASNPCHG- | ICMDGINRYS | CVCSPGFTGQ | 677 |
| RGTCQDPDNA | YLCFCLKGTT | GPNCEINLDD | CASSPCDSG- | TCLDKIDGYE | CACEPGYTGS | 673 |
| GGQCTDRENG | YICTCPKGT | GVNCEIKIDD | CASNLCDNG- | KCIDKIDGYE | CTCEPGYTGK | 672 |
| DGHCQDRVGS | YYCQCQAGTS | GKNCEVNVNE | CHSNPCNNGA | TCIDGINSYK | CQCVPGFTGQ | 710 |

FIG.13B

| | | | | | | |
|--------|------------|------------|------------|------------|------------|-------------|
| hum N | RCNIDIDECA | SNPCRKGATC | INGVNGFRCI | CPEGPHHPSC | YSQVNECLSN | PCI-HGNCTG |
| TAN-1 | MCNSNIDECA | GNPCHNGGTC | EDGINGFTCR | CPEGYHDPTC | LSEVNECNSN | PCV-HGACRD |
| Xen N | LCNININECD | SNPCRNGGTC | KDQINGFTCV | CPDGYDHMC | LSEVNECNSN | PCI-HGACHD |
| Dros N | HCEKNVDECI | SSPCANNGVC | IDQVNGYKCE | CPRGFYDAHC | LSDVDECASN | PCVNEGRCD |
| hum N | DECASNPCLN | QGTCFDDISG | YTCHCVLPYT | GKNCQTVLAP | CSPNPCENAA | VCKESPINFES |
| TAN-1 | NECASNPCLN | KGTCIDDVAG | YKCNCLLPYT | GATCEVVLAP | CAPSPCRNGG | ECRQSEDYES |
| Xen N | NECSSNPCLN | HGTCIDDVAG | YKCNCLMPYT | GAICEAVLAP | CAGSPCKNGG | RCKESEDFT |
| Dros N | DDCVTNPCGN | GGTCIDKVNG | YKCVCKVPFT | GRDCESKMDP | CASNRCKNEA | KCTPSSNFLD |
| hum N | CLANPCQNGG | SCMDGVNTFS | CLCLPGFTGD | KCQTDNMECL | SEPCKNGGTC | SDYVNSYTCK |
| TAN-1 | CRPNPCHNGG | SCTDGINAF | CDCLPGFRGT | FCEEDINECA | SDPCRNGANC | TDCVDSYTCT |
| Xen N | CQPNPCHNGG | SCSDGINMFF | CNCPAGFRGP | KCEEDINECA | SNPCKNGANC | TDCVNSYTCT |
| Dros N | CASFPCQNGG | TCLDGIQDYS | CLCVDGFDGK | HCETDINECL | SQPCQNGATC | SQYVNSYTCT |

| | | | | | | |
|------------|------------|------------|-------------|------------|-------------|------|
| GLSGYKCLCD | AGWVGINCEV | DKNECLSNPC | QNGGTCNVLV | NGYRCTCKKG | FKGYNCQVNI | 796 |
| SLNGYKCDGD | PGWSGTNCDI | NNNECESNPC | VNGGTCKDMT | SGIVCTCREG | FSGPNCQTNI | 792 |
| GVNGYKCDCE | AGWSGSNCDI | NNNECESNPC | MNGGTCKDMT | GAYICTCKAG | FSGPNCQTNI | 791 |
| GINEFICHCP | PGYTGRCEL | DIDECSSNPC | QHGGTCYDKL | NAFSCQCMGP | YTGQKCE TNI | 830 |
| YTCLCA-PGW | QGQRTIDID | EC-ISKPCMN | HGLCHNTQGS | YMCECPPGFS | GMDCEEDIDD | 914 |
| FSCVCPTAGA | KGQTCEVDIN | EC-VLSPCRH | GASQNTHGG | YRCHCQAGYS | GRNCETDIDD | 911 |
| FSCECP-PGW | QGQTCEIDMN | EC-VNRPCRN | GATCQNTNGS | YKCNCKPGYT | GRNCMDIDD | 909 |
| FSCTCK-LGY | TGRYCEDID | ECSLSSPCRN | GASCLNVPGS | YRCLCTKGYE | GRDCAINTDD | 949 |
| CQAGFDGVHC | ENNINECTES | SCFNGGTCVD | GINSFSCCLCP | VGFTGSFCLH | EINECSSHPC | 1034 |
| CPAGFSGIHC | ENNTPDCTES | SCFNGGTCVD | GINSFTCLCP | PGFTGSYCQH | VVNECDSRPC | 1031 |
| CQPGFSGIHC | ESNTPDCTES | SCFNGGTCID | GINTFTCQCP | PGFTGSYCQH | DINECDSKPC | 1029 |
| CPLGFSGINC | QTNDEDCTES | SCLNGGSCID | GINGYNCSCL | AGYSGANCQY | KLNKCDSNPC | 1069 |

FIG.13C

| | | | | | | |
|--------|------------|------------|------------|------------|------------|------------|
| hum N | LNEGTCVDGL | GTYRCSCPLG | YTGKNCQTLV | NLCRSPPCKN | KGTCVQKKA | EQCLCPSGWA |
| TAN-1 | LLGGTCQDGR | GLHRTCPQG | YTGPNQNLV | HWCDSSPCKN | GGKCWQHTQ | YRCECPSGWT |
| Xen N | LNGGTCQDSY | GTWKCTCPQG | YTGKNCQNLV | HWCDSSPCKN | GGKCWQTNF | YRCECKSGWT |
| Dros N | LNGATCHEQN | NEYTCHCPQG | FTGKQCSEYV | DWCGQSPCEN | GATCSQMKHQ | FSCCKSAGWT |

| | | | | | | |
|--------|------------|------------|------------|------------|------------|------------|
| hum N | SNPCQHGATC | SDFIGGYRCE | CVPGYQGVNC | EYEVDECQNG | PCQNGGTCID | LVNHFKCSCP |
| TAN-1 | PSPCQNGATC | TDYLGGSCK | CVAGYHGVNC | SEEIDECLSH | PCQNGGTCLD | LPNTYKCS |
| Xen N | PNPCQNGATC | TDYLGGSCE | CVAGYHGVNC | SEEINECLSH | PCQNGGTCID | LINTYKCS |
| Dros N | SQPCQNGGTC | RDLIGAYECQ | CRQGFQGNQ | ELNIDDCAPN | PCQNGGTCHD | RVMNFS |

| | | | | | | |
|--------|------------|------------|------------|------------|------------|----------|
| hum N | CLSNPCSSG | SLDCIQLTND | YLCVCRSAFT | GRHCETFDV | CPQMPCLNGG | TCAVASNM |
| TAN-1 | CLSNPCDARG | TQNCVQRVND | FHCECRAGHT | GRRCESVING | CKGKPCKN | TCAVASNT |
| Xen N | CLSNPCDSRG | TQNCIQLVND | YRCECRQGT | GRRCESVDG | CKGMPCRNGG | TCAVASNT |
| Dros N | CLSNPCSNAG | TLDCVQLVNN | YHCNCRPGHM | GRHCEHKVDF | CAQSPCQNGG | NCNI—RQS |

| | | | | | | |
|-----------|------------|------------|------------|------------|------------|------|
| GAYCDVPNV | CDIAASRRGV | LVEHLCQHS | VCINAGNTHY | CQCPLGYTGS | YCEEQLDECA | 1154 |
| GLYCDVPSV | CEVAAQRQGV | DVARLCQHGG | LCVDAGNTHH | CRCQAGYTGS | YCEDLVDECS | 1151 |
| GVYCDVPSV | CEVAAKQGGV | DIVHLCRNSG | MCVDTGNTHF | CRCQAGYTGS | YCEEQVDECS | 1149 |
| GKLCVQTIS | CQDAADRKGL | SLRQLC—NNG | TCKDYGNSHV | CYCSQGYAGS | YQKEIDECQ | 1188 |

| | | | | | | |
|------------|------------|------------|------------|------------|------------|------|
| PGTRGLLCEE | NIDDCAR— | —GPHCLN | GGQCMDRIGG | YSCRCLPGFA | GERCEGDINE | 1267 |
| RGTQGVHCEI | NVDDCNPPVD | PVSRSPKCFN | NGTCVDQVGG | YSCTCPPGFV | GERCEGDVNE | 1271 |
| RGTQGVHCEI | NVDDCTPFYD | SFTLEPKCFN | NGKCIDRVGG | YNCICPPGFV | GERCEGDVNE | 1269 |
| PGTMGIICEI | NKDDCKP— | —GACHN | NGSCIDRVGG | FECVCQPGFV | GARCEGDINE | 1300 |

| | | | | | | |
|------------|------------|------------|------------|------------|------------|------|
| GFICRCPGF | SGARCQS— | SCGQVKCRKG | EQCVHTAS— | GPRCFCPSP— | —RDCES— | 1376 |
| GFICKCPAGF | EGATCENDAR | TCGSLRCLNG | GTCISGPR— | SPTCLCLGPF | TGPECQFPAS | 1389 |
| GFICKCPGF | DGATCEYDSR | TCSNLRQNG | GTCISVLT— | SSKVCSEGY | TGATCQYPVI | 1387 |
| GHHICNNGF | YGKNCELSGQ | DCDSNPCRVG | —NCVVADEGF | GYRCECPRG | LGEHCEIDTL | 1415 |

FIG.13D

| | | | | |
|--------|---|------------|------------|------|
| hum N | -GC-ASSPCQ HGGSCHPQRQ PPYYSCQCAP PFSGRCEL | -YTAPP | -S | TPP |
| TAN-1 | SPCLGGNPCY NQGTCEPTSE SPFYRCLCPA KFNGLLCHIL | DYSFGG | -GAGRD | IPPP |
| Xen N | SPC-ASHPCY NGGTCQFFAE EPFFQCFCPK NFNGLFCHIL | DYEFPG | -GLGKNIT | TPP |
| Dros N | DEC-SPNPCA QGAACEDLLG D-YECLCPS KWKGRCDIY | DANYPGWNGG | SGSGNDRYAA | |

| | | | | |
|--------|---------------------------------|------------|------------|------------|
| hum N | NN-QCDELCN TVECLFDNFE CQGNSTCK- | -YDKYCADHF | KDNHCNQGCN | SEECGWDGLD |
| TAN-1 | SDGHCDQCN SAGCLDFGFD CQRAEGQCNP | LYDQYCKDHF | SDGHCDQGCN | SAECEWDGLD |
| Xen N | NDGKCDQCN NTGCLYDGF DQKVEVQCNP | LYDQYCKDHF | QDGHCDQGCN | NAECEWDGLD |
| Dros N | KNGKCNEECN NAACHYDGH CERKLKSCDS | LFDAYCQKHY | GDGFCDYGCN | NAECSDWGLD |

| | | | | | | |
|--------|----------------------------------|------------|------------|------------|----------|------------|
| hum N | YYGEKSAAMK KQ-R | | MTRRSL | PGEQ | E | QEVAGSKVFL |
| TAN-1 | YYGREEELRK HPIKRAAEGW AAPDALLGQV | KASLLPGGSE | GRRRRRELDP | MDVRGSIVYL | | |
| Xen N | YYGNEEELKK HHIKRSTDYW SDAPSAI | -FSTMKESIL | LGRHRRELDE | MEVRGSIVYL | | |
| Dros N | WKDNVRVPEI EDTDFARKNK ILYTQQVHQ | | | | -TGIQIYL | |

LNR (Notch/Lin-12 Repeats)

| | | | | |
|------------|----------------------------------|------------|------------|------|
| ---A---TCL | SOYCADKARD GVCDEACNSH ACQWDGGDCS | LTMENPWANC | SSPLPCWDYI | 1476 |
| LIEE---ACE | LPECQEDAGN KVCSLQCNH ACQWDGGDCS | LNFDNPWKNC | TQSLQCWKYF | 1501 |
| DNDD---ICE | NEQCSELADN KVCNANCNNH ACQWDGGDCS | LNFDNPWKNC | TQSLQCWKYF | 1498 |
| DLEQQRAMCD | KRGCTEKQGN GICSDSCNTY ACNFDGNDCS | LGI-NPWANC | TAN-EXWNKF | 1531 |

| | | | | |
|------------|----------------------------------|------------|------------|------|
| CAADQPEN-L | AEGTLVIVVL MPPEQLLQDA R-SFLRALGT | LLHTNLRIKR | DSQGELMVYP | 1591 |
| CAEHVPER-L | AAGTL-VVVV LMPPEQLRNS SFHFLRELSR | VLHTNVVFKR | DAHQQMIFP | 1619 |
| C-ANMPEN-L | AEGTLVLVVL MPPERLKNNS V-NFLRELSR | VLHTNVVFKK | DSKGEYKIYP | 1615 |
| CENKTQSPVL | AEGAMSVVML MNVEAFREIQ A-QFLRNMSH | MLRTTVRLKK | DALGHDIIN | 1650 |

| | | | | | |
|------------|----------------------------------|------------|----------|-----|------|
| EIDNRQCVDQ | SDHCFKNTDA AAALLASHAI QG-TLSYP | LVSVVSESLT | PERT-Q | LY | 1680 |
| EIDNRQCQVA | SSQCFQSATD VAAFLGALAS LGSL-NIPYK | IEAVQSETVE | PPPPAQ | LHF | 1737 |
| EIDNRQCYKS | SSQCFNSATD VAAFLGALAS LGSLDTLSYK | IEAVKSENME | TPKPST | LYP | 1730 |
| EIDNRKCTEC | FTHAVEAAEF LAATAAKHQL RNDFO-IHSV | RGIKNPGDED | NGEPPANV | KY | 1745 |

FIG.13E

| | | | |
|--------|----------------------|----------------------------------|------------|
| hum N | LLAVAVVIL FIILLGVIMA | KRKRK--HGS LWLPEGFTLR RDASNHRRE | PVGQDAVGLK |
| TAN-1 | MYVAAAFVL LFFVGGVLL | SRKRRRQHQG LWFPEGFKV- SEASKKKRRE | ELGEDSVGLK |
| Xen N | MLSMLVIPLL IIFVFMVIV | NKKRRREHDS FGSPTALFQK NPA-KRNGET | PW-EDSVGLK |
| Dros N | VITGIILVII ALAFFGMVL | STQRKRAHGV TWPEGFRAP AAVMSRRRRD | PHGQEMRNLN |

CDC-10/Ankyrin Repeats

| | | | |
|--------|-----------------------|----------------------------------|-----------------------|
| hum N | PIDRRPWTQQ HLEAADIRRT | PSLALTPPQA EQEVDVLDVN VRGPDGCTPL | MLASLRGGSS |
| TAN-1 | QTDHRQWTQQ HLDAADL-RM | SAMAPTPPQG EVDADCMDVN VRGPDGFTPL | MIASCSGGGL |
| Xen N | KTDPRQWTRQ HLDAADL-RI | SSMAPTPPQG EIEADCMDVN VRGPDGFTPL | MIASCSGGGL |
| Dros N | EADQRVWSQA HLDVVDV-R- | AIM--TPP-A HQDGGKHVDV | ARGPCGLTPL MIAAVRGGGL |

| | | | |
|--------|-----------------------|---------------------------------|------------|
| hum N | ANAQDNMGRG PLHAAVAADA | QGVFQILIRN RVTOLDARMN DGTPLILAA | RLAVEGMVAE |
| TAN-1 | ANIQDNMGRG PLHAASADA | QGVFQILIRN RATOLDARMH DGTPLILAA | RLAVEGMLED |
| Xen N | ANVQDNMGRG PLHAAVAADA | QGVFQILIRN RATOLDARMF DGTPLILAA | RLAVEGMVEE |
| Dros N | ANCQDNTGRG PLHAAVAADA | MGVFQILLRN RATNLNARMH DGTPLILAA | RLATEGMVED |

| | | | |
|----------------------------|-----------------------|-----------------------|------|
| NLSVQVSEAN LIGTGTSEHW VDDE | -----G | PQPKKVAED EALLSE-EDD | 1782 |
| PLK-NASDGA LMDNQNE-W GDED | ----- | LETKKRFEE PVVLPD-LDD | 1837 |
| PIK-NMTDGS FMDNQNE-W GDEET | ----- | LENKRFRFEE QVILPELVDD | 1831 |
| KQVAMQSQGV QQPGAH--W | SDDESMPPLP KRQRSDPVSG | VGLGNNGGYA SDHTMVSEYE | 1861 |

| | | | |
|------------------------|-----------------------|-----------------------|------|
| DLSEDEDAE DSSANIITDL | VYQGASLQAO TDRTGEMALH | LAARYSRADA AKRLLDAGAD | 1902 |
| ETGNSEEE-E DAPA-VISDF | IYQGASLHNQ TDRTGETALH | LAARYSRADA AKRLLASAD | 1954 |
| ETGNSEEE-E DASANMISDF | ICQGAQLHNQ TDRTGETALH | LAARYARADA AKRLLSSAD | 1949 |
| LTGEDIIENNE DSTAQVISDL | LAQGAELNAT MDKTGETSLH | LAARFARADA AKRLLDAGAD | 1976 |

| | | | |
|-----------------------|-----------------------|-----------------------|------|
| LINCQADVNA VDDHGKSALH | WAAAVNNVEA TLLLLKNGAN | RDMQDNKEET PLFLAAREGS | 2022 |
| LINSHADVNA VDDLCKSALH | WAAAVNNVDA AVVLLKNGAN | KDMQNNREET PLFLAAREGS | 2074 |
| LINAHADVNA VDEFGKSALH | WAAAVNNVDA AAVLLKNSAN | KDMQNNKEET SLFLAAREGS | 2069 |
| LITADADINA ADNSGKTALH | WAAAVNNTEA VNILLMHAN | RDAQDDKDET PLFLAAREGS | 2096 |

FIG.13F

| | |
|--------|---|
| hum N | Y E A A K I L L D H F A N R D I T D H M D R L P R D V A R D R M H H D I V R L L D E Y N V T P S P P — G T V L — T S |
| TAN-1 | Y E T A K V L L D H F A N R D I T D H M D R L P R D I A Q E R M H H D I V R L L D E Y N L V R S P Q L H C A P L G G T P |
| Xen N | Y E T A K V L L D H Y A N R D I T D H M D R L P R D I A Q E R M H H D I V H L L D E Y N L V K S P T L H N G P L G A T — |
| Dros N | Y E A C K A L L D N F A N R E I T D H M D R L P R D V A S E R L H H D I V R L L D E — H V P R S P Q M L S M T P Q A M I |

| | | | | | | | |
|--------|---|--|-------|------|------|--|--|
| | NLS | | CK II | cdc2 | cdc2 | | |
| hum N | G S R R K K S L S E K V Q L S E — S S V T L S P V D S L E S P H T Y V S D T T S S P M | | | | | | |
| TAN-1 | A — R R K K S Q D G K G C L L D — S S G M L S P V D S L E S P H G Y L S D V A S P P L | | | | | | |
| Xen N | A — R R K K S Q D G K T T L L D S G S S G V L S P V D S L E S T H G Y L S D V S S P P L | | | | | | |
| Dros N | G S — P D N G L D A T G S L R R K A S S K K T S A A S K K A A N L N G L N P G Q L T G G V S G V P G V P P T N S A A Q A | | | | | | |
| | BNTS | | | | | | |

| | | | | |
|--------|---|--|------|---|
| hum N | | | | I T S P G I L Q A S P N P M L — A T A A P P A P V H A Q H |
| TAN-1 | | | | L P S P F Q Q S P S V P L N H L P G M P D T H L G I G H |
| Xen N | | | | M T S P F Q Q S P S M P L N H L T S M P E S Q L G M N H |
| Dros N | Y E D C I K N A Q S M Q S L Q G N G L D M I K L D N Y A Y S M G S P F Q Q E L L N G Q G L G M N G N G Q R N G V G P | | | |
| | CK II | | cdc2 | |

| | | | | | | | | |
|--------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------|----------------|------|
| ALSPV | — | — | ICGP | NRSFLSLKHT | PMGKKSRRPS | AKSTMPTSLP | NLAKEAKDAK | 2127 |
| TLSP | — | — | LCSP | NGYLGSLKPG | VQKKVKRPS | SKGLACGS | —KEAKDLK | 2178 |
| TLSP | — | — | ICSP | NGYMGNMKPS | VQSKKARKPS | IKGNGC | —KEAKELK | 2170 |
| GSPPPGQQP | Q L I T Q P T V I S | A G N G G N N G N G | N A S G K Q S N Q T | A K Q K A A | — | — | —K K A K L I E | 2208 |
| | | | | | | | | 2169 |
| | | | | | | | | 2219 |
| | | | | | | | | 2213 |
| AAAAAAVAA | M S H E L E G S P V | G V G M G G N L P S | P Y D T S S M Y S N | A M A A P L A N G N | P N T G A K Q P P S | | | 2327 |
| ALSFSNLHEM Q | — | — | — | — | — | — | — | 2235 |
| LNVA—KPEM | A A L G G G R L A | F E T G P P R L S H | L P V A S G T S T V | L G S S S G G A L N | F T V G G S T S L N | | | 2306 |
| INMAT—KQEM | A A — G S N R M A | F D A M V P R L T H | L — N A S S P N T I | M S — N G S M H | F T V G G A P T M N | | | 2294 |
| GVLPGGLCGM | G G L S G A G N G N | S H E Q G L S P P Y | S N Q S P P H S V Q | S S L A L S P H A Y | L G S P S P A K S R | | | 2445 |

FIG.13G

| | | | | | | |
|--------|------------|------------|------------|------------|------------|------------|
| hum N | GSAGLSRLH | PVPVPADW-- | MNRMEVNETQ | YNEMFGMVL | PAEG-THPGI | APQSRPPECK |
| TAN-1 | GQCEWLSRLQ | SGMVPNQYNP | LRGSAVAPGL | STQAPSLQHG | -MVGPLHSSL | AASALSQMMS |
| Xen N | SQCDWLARLQ | NGMVQNQYDP | IRNGIQQGN- | AQQAQALQHG | LMTS-LHNGL | PATTLSQMMT |
| Dros N | PSLPTSPTHI | QAMRHATQK | QFGSNLNSL | LGGANGGGVV | GGGGGGGGV | GQGPQNSPVS |

| | | | | | | |
|--------|------------|------------|------------|---------------|--------------|------------|
| hum N | APQPSTCPP | AVAGPLPTMY | QIP----- | EM ARL-PSVAFP | TAMPQQDQ | VAQTILPAYH |
| TAN-1 | PPQPHLGVS | AASGHLGRSF | LSGEPQADV | QPLGPSSLAV | HTILPQ-ESP | ALPTSLPSSL |
| Xen N | MQQQHHN-SS | TTSTHINSPF | CSSDISQDGL | QQM-SSNNI | HSVMPQ-DTQ | IFAASLPNLS |
| Dros N | QQQLGGLFEG | SAGLDLNG-F | CGSPDSFHSG | QMNPPS--- | I QSSMSG-SSP | STNMLSPSSQ |

| | | | | |
|--------|------------|------------|-----------------|-------|
| hum N | SDWSDVTSP | TPGGAGGQR | GPGTHMSEPPHNN | MQVYA |
| TAN-1 | SDWSEGVSSP | PT----- | SMQ SQIARIPEAFK | |
| Xen N | SDWSEGISSP | PT----- | SMQ PQRTHIPEAFK | |
| Dros N | SDWSEGVQSP | AANNLYISGG | HQANKGSEAIYI | |

| | | | | | | |
|-----------|------------|------------|------------|------------|------------|-----------------|
| ----- | ----- | HITTPRE | PLPP-IV-TF | QLIPKGSIAQ | PAG----- | 2320 |
| ----- | ----- | -YQGLPSTRL | ATQPHLVQTQ | QVQPQNLMQ | QQLQPANIQ | QQQSLQPPPP 2414 |
| ----- | ----- | -YQAMPNTRL | ANQPHLMQAQ | QMQQQQN--- | ----- | LQLHQS 2384 |
| LGIIPTGSD | MGIMLAPPQS | SKNSAIMQTI | SPQQQQQQQQ | QQQQQHQQQQ | QQQQQQQQQQ | 2565 |

PEST -containing Region

| | | | | | | |
|------------|------------|------------|------------|------------|------------|------|
| PFPASVGKYP | TPPSQHSYAS | SNAARTPSH | SGHLQGEHPY | LTPSPESPDQ | WSSSSPHSA- | 2433 |
| VPPVTAAQFL | TPPSQHSY-S | S-PVENTPSH | QLQVP-EGPF | LTPSPESPDQ | WSSSSPHSNV | 2530 |
| TQSMTTAQFL | TPPSQHSY-S | S-PMDNTPSH | QLQVP-DHPF | LTPSPESPDQ | WSSSSPHSNM | 2497 |
| HNQQAIFYQL | TPSSQHS--- | CGHTPQH | LVQTL-D-SY | PTSPESPUGH | WSSSSPRSN- | 2671 |

2471
2556
2523
2703

FIG.13H

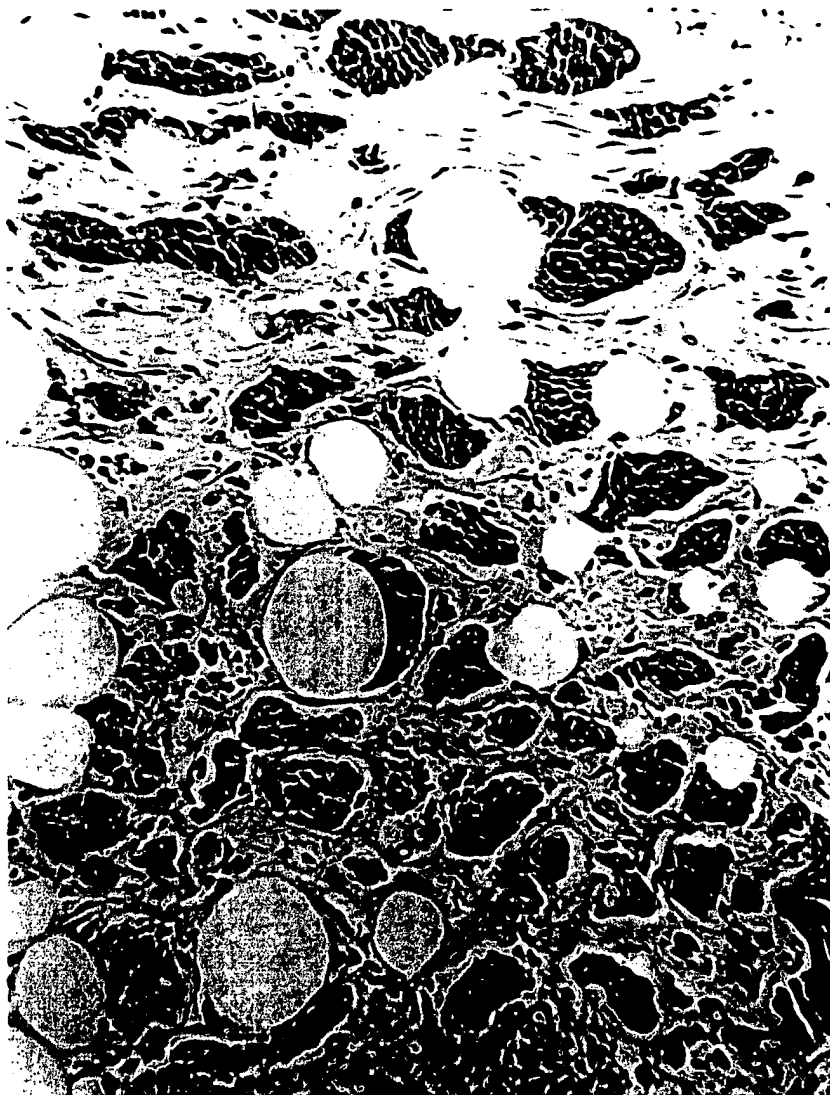


FIG.14



FIG.15A



FIG.15B



FIG.16A



FIG. 16B

```

      10      20      30      40      50      60      70      80      90
      *      *      *      *      *      *      *      *      *
GGAATTCGGC CCGCCCTGGC CCCCCTCTG CTGTGGGGGC TGCTGGCGCT CTGGCTGTGC TCGCGGGCCC CCGCGCATGC ATTGCAGTGT
      P A L R P A L L W A L L A L W L C C A A P A H A L Q >

     100     110     120     130     140     150     160     170     180
     *      *      *      *      *      *      *      *      *
CGAGATGGCT ATGAACCTG TGTAAATGAA GGAATGTGT TTACCTACCA CAATGGCACA GGATACTGCA AATGTCCAGA AGGCTTCTTG
      R D G Y E P C V N E G M C V T Y H N G T G Y C K C P E G F L>

     190     200     210     220     230     240     250     260     270
     *      *      *      *      *      *      *      *      *
GGGAATATT GTCAACATCG AGACCCCTGT GAGAAGAACC GCTGCCAGAA TGGTGGGACT TGTGTGGCCC AGGCCATGCT GGGGAAAGCC
      G E Y C Q H R D P C E K N R C Q N G G T C V A Q A M L G K A>

     280     290     300     310     320     330     340     350     360
     *      *      *      *      *      *      *      *      *
ACGTGCCGAT GTGCCTCAGG GTTACAGGA GAGGACTGCC AGTACTCAAC ATCTCATCCA TGCTTTGTGT CTCGACCTCG CCTGAATGGC
      T C R C A S G F T G E D C Q Y S T S H P C F V S R P C L N G>

     370     380     390     400     410     420     430     440     450
     *      *      *      *      *      *      *      *      *
GGCACATGCC ATATGCTCAG CCGGGATACC TATGAGTGCA CCTGTCAAGT CCGGTTTACA GGTAAGGACT GCCAATGGAC GGATGCCTGC
      G T C H M L S R D T Y E C T C Q V G F T G K E C Q W T D A C>

     460     470     480     490     500     510     520     530     540
     *      *      *      *      *      *      *      *      *
CTGTCTCATC CCTGTGAAA TGAAGTACC TGTACCACTG TGGCCAACCA GTTCTCCTGC AAATGCCTCA CAGGCTTCAC AGGGCAGAAA
      L S H P C A N G S T C T T V A N Q F S C K C L T G F T G Q K>

     550     560     570     580     590     600     610     620     630
     *      *      *      *      *      *      *      *      *
TGTGAGACTG ATGTCAATGA GTGTGACATT CCAGGACACT GCCAGCATGG TGGCACCTGC CTCAACCTGC CTGTTCTCTA CCAGTGCCAG
      C E T D V N E C D I P G H C Q H G G T C L N L P G S Y Q C Q>

     640     650     660     670     680     690     700     710     720
     *      *      *      *      *      *      *      *      *
TGGCCTCAGG GCTTCACAGG CCAGTACTGT GACAGCCTGT ATGTGCCCTG TGCACCTCA CCTTGTGTCA ATGAGGCAC CTGTGGGACG
      C P Q G F T G Q Y C D S L Y V P C A P S P C V N G G T C R Q>

     730     740     750     760     770     780     790     800     810
     *      *      *      *      *      *      *      *      *
ACTGGTGACT TCACITTTGA GTGCAACTGC CTCCAGGT TTGAAGGGAG CACCTGTGAG AGGAATATTG ATGACTGCCC TAACCACAGG
      T G D F T F E C N C L P G F E C S T C E R N I D D C P N H R>

```

FIG.17A

820 830 840 850 860 870 880 890 900
* * * * *
TGTCAGAATG GAGGGGTTTG TGTGGATGGG GTCAACACTT ACAACTGCCG CTGTCCCCCA CAATGGACAG GACAGTTCTG CACAGAGGAT
C Q N G G V C V D G V N T Y N C R C P P Q W T G Q F C T E D>

910 920 930 940 950 960 970 980 990
* * * * *
GTGGATGAAT GCCTGCTGCA GCCCAATGCC TGTCAAAATG GGGGCACCTG TGCCAACCCG AATGGAGGCT ATGGCTGTGT ATGTGTCAAC
V D E C L L Q P N A C Q N G G T C A N R N G G Y G C V C V N>

1000 1010 1020 1030 1040 1050 1060 1070 1080
* * * * *
GGCTGGAGTG GAGATCACTG CACTGAGAAC ATTGATGATT GTGCCTTCGC CTCCTGTACT CCAGGCTCCA CCTGCATCGA CCGTGTGGCC
G W S G D D C S E N I D D C A F A S C T P G S T C I D R V A>

1090 1100 1110 1120 1130 1140 1150 1160 1170
* * * * *
TCCTTCTCTT GCATGTGCCC AGAGGGGAAG GCAGGTCTCC TGTGTCTCTT GGATGATGCA TGCATCAGCA ATCCTTGCCA CAAGGGGGCA
S F S C M C P E G K A G L L C H L D D A C I S N P C H K G A>

1180 1190 1200 1210 1220 1230 1240 1250 1260
* * * * *
CTGTGTGACA CCAACCCCTT AAATGGGCAA TATATTTGCA CCTGCCCACA AGGCTACAAA GGGGCTGACT GCACAGAAGA TGTGGATGAA
L C D T N P L N G Q Y I C T C P Q G Y K G A D C T E D V D E>

1270 1280 1290 1300 1310 1320 1330 1340 1350
* * * * *
TGTGCCATGG CCAATAGCAA TCCTGTGAG CATGCAGGAA AATGTGTGAA CACGGATGGC GCCTTCCACT GTGAGTGTCT GAAGGGTTAT
C A M A N S N P C E H A G K C V N T D G A F H C E C L K G Y>

1360 1370 1380 1390 1400 1410 1420 1430 1440
* * * * *
GCAGGACCTC GTTGTGAGAT GGACATCAAT GAGTGCCATT CAGACCCCTG CCAGAATGAT GCTACCTGTC TGGATAAGAT TGGAGGCTTC
A G P R C E M D I N E C H S D P C Q N D A T C L D K I G G F>

1450 1460 1470 1480 1490 1500 1510 1520 1530
* * * * *
ACATGTCTGT GCATGCCAGG TTTCAAAGGT GTGCATTGTG AATTAGAAAT AAATGAATGT CAGACCAACC CTTGTGTGAA CAATGGGCAG
T C L C M P G F K G V H C E L E I N E C Q S N P C V N N G Q>

1540 1550 1560 1570 1580 1590 1600 1610 1620
* * * * *
TGTGTGGATA AAGTCAATCG TTTCCAGTGC CTGTGTCCTC CTGGTTTCAC TGGGCCAGTT TGCCAGATTG ATATTGATGA CTGTTCCAGT
C V D K V N R F Q C L C P P G F T G P V C Q I D I D D C S S>

FIG.17B

| | | | | | | | | |
|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| 1630 | 1640 | 1650 | 1660 | 1670 | 1680 | 1690 | 1700 | 1710 |
| ACTCCGTGTC | TGAATGGGG | AAAGTGTATC | GATCACCGCA | ATGGCTATGA | ATGCCAGTGT | GCCACAGGTT | TCAGTGGTGT | GTGTGTGAG |
| T P C | L N G A | K C I | D H P | N G Y E | C Q C | A T G | F T G V | L C E> |
| | | | | | | | | |
| 1720 | 1730 | 1740 | 1750 | 1760 | 1770 | 1780 | 1790 | 1800 |
| GAGAACATTG | ACAACTGTGA | CCCCGATCCT | TGCCACCATG | GTCAGTGTCA | GGATGGTATT | GATTCCTACA | CCTGCATCTG | CAATCCCGGG |
| E N I | D N C D | P D P | C H H | G Q C Q | D G I | D S Y | T C I C | N P G> |
| | | | | | | | | |
| 1810 | 1820 | 1830 | 1840 | 1850 | 1860 | 1870 | 1880 | 1890 |
| TACATGGGGC | CCATCTGCAG | TGACCAGATT | GATGAATGTT | ACAGCAGCCC | TTGCCTGAAC | GATGGTCGCT | GCATTGACCT | GGTCAATGGC |
| Y M G | A I C S | D Q I | D E C | Y S S P | C L N | D G R | C I D L | V N G> |
| | | | | | | | | |
| 1900 | 1910 | 1920 | 1930 | 1940 | 1950 | 1960 | 1970 | 1980 |
| TACCACTGCA | ACTGCCAGCC | AGGCCAGTCA | GGGGTTAATT | GTGAAATTAA | TTTGTATCAC | TGTGCAAGTA | ACCCTGTAT | CCATGGAATC |
| Y Q C | N C Q P | G T S | G V N | C E I N | F D D | C A S | N P C I | H G I> |
| | | | | | | | | |
| 1990 | 2000 | 2010 | 2020 | 2030 | 2040 | 2050 | 2060 | 2070 |
| TGTATCGATG | GCATTAATCG | CTACAGTTGT | GTCTGCTCAC | CAGGATTCAC | AGGCCAGAGA | TGTAACATTG | ACATTGATGA | GTGTGCCTCC |
| C M D | G I N R | Y S C | V C S | P G F T | G Q R | C N I | D I D E | C A S> |
| | | | | | | | | |
| 2080 | 2090 | 2100 | 2110 | 2120 | 2130 | 2140 | 2150 | 2160 |
| AATCCCTGTC | GCAAGGTGTC | AACATGTATC | AACGGTGTGA | ATGGTTTCCG | CTGTATATGC | CCCGAGGGAC | CCCATACCC | CAGCTGCTAC |
| N P C | R K G A | T C I | N G V | N G F R | C I C | P E G | P H H P | S C Y> |
| | | | | | | | | |
| 2170 | 2180 | 2190 | 2200 | 2210 | 2220 | 2230 | 2240 | 2250 |
| TCACAGGTGA | ACGAATGCCT | GAGCAATCCC | TGCATCCATG | GAAACTGTAC | TGGAGGTCTC | AGTGGATATA | AGTGTCTCTG | TGATGCAGGC |
| S Q V | N E C L | S N P | C I H | G N C T | G G L | S G Y | K C L C | D A G> |
| | | | | | | | | |
| 2260 | 2270 | 2280 | 2290 | 2300 | 2310 | 2320 | 2330 | 2340 |
| TGGTTGCCA | TCAACTGTGA | ACTGGACAAA | AATGAATGCC | TTTCCAATCC | ATGCCAGAAT | GGAGGAACCT | GTGACAATCT | GGTGAATGGA |
| W V G | I N C E | V D K | N E C | L S N P | C Q N | G G T | C D N L | V N G> |
| | | | | | | | | |
| 2350 | 2360 | 2370 | 2380 | 2390 | 2400 | 2410 | 2420 | 2430 |
| TACAGGTGTA | CTTCCAAGAA | GGCCTTTAAA | GGCTATAACT | GCCAGGTGAA | TATTGATGAA | TGTGCCTCAA | ATCCATGCCT | GAACCAAGGA |
| Y R C | T C K F | G F K | G Y N | C Q V N | I D E | C A S | N P C L | N Q G> |

FIG.17C

| | | | | | | | | |
|---------------|-------------|---------------|---------------|------------|------------|------------|-------------|-------------|
| 2440 | 2450 | 2460 | 2470 | 2480 | 2490 | 2500 | 2510 | 2520 |
| * | * | * | * | * | * | * | * | * |
| ACCTGCTTTG | ATGACATAAG | TGGCTACACT | TGCCACTGTG | TGCTGCCATA | CACAGGCAAG | AATTGTCAGA | CAGTATTGGC | TCCTGTITCC |
| T C F D D I S | G Y T C H C | V L P Y T G K | N C Q T V L A | P C S> | | | | |
| | | | | | | | | |
| 2530 | 2540 | 2550 | 2560 | 2570 | 2580 | 2590 | 2600 | 2610 |
| * | * | * | * | * | * | * | * | * |
| CCAAACCCCT | GTGAGAATGC | TGCTGTTTGC | AAAGAGTCAC | CAAATTTTGA | CAGTTATACT | TGCTTGTGTG | CTCCTGGCTG | GCAAGGTCAG |
| P N P C E N A | A V C K E S | P N F E S Y T | C L C A P G W | Q G Q> | | | | |
| | | | | | | | | |
| 2620 | 2630 | 2640 | 2650 | 2660 | 2670 | 2680 | 2690 | 2700 |
| * | * | * | * | * | * | * | * | * |
| CGGTGTACCA | TTGACATTGA | CGAGTGTATC | TCCAAGCCCT | GCATGAACCA | TGGTCTCTGC | CATAACACCC | AGGGCAGCTA | CATGTGTGAA |
| R C T I D I D | E C I S K P | C M N H G L C | H N T Q G S Y | M C E> | | | | |
| | | | | | | | | |
| 2710 | 2720 | 2730 | 2740 | 2750 | 2760 | 2770 | 2780 | 2790 |
| * | * | * | * | * | * | * | * | * |
| TGTCCACCAG | GCTTCAGTGG | TATGGACTGT | GAGGAGGACA | TTGATGACTG | CCTTGCCAAT | CCTTGCCAGA | ATGGAGGTTT | CTGTATGGAT |
| C P P G F S G | M D C E E D | I D D C L A N | P C Q N G G S | C M D> | | | | |
| | | | | | | | | |
| 2800 | 2810 | 2820 | 2830 | 2840 | 2850 | 2860 | 2870 | 2880 |
| * | * | * | * | * | * | * | * | * |
| GGAGTGAATA | CTTTCTCCTG | CCTCTGCCIT | CCGGGTTTCA | CTGGGGATAA | GTGCCAGACA | GACATGAATG | AGTGTCTGAG | TGAACCCCTGT |
| G V N T F S C | L C L P G F | T G D K C Q T | D M N E C L S | E P C> | | | | |
| | | | | | | | | |
| 2890 | 2900 | 2910 | 2920 | 2930 | 2940 | 2950 | 2960 | 2970 |
| * | * | * | * | * | * | * | * | * |
| AAGAATGGAG | GGACCTGCTC | TGACTACGTC | AACAGTTACA | CTTGCAAGTG | CCAGGCAGGA | TTTGATGGAG | TCCATTGTGA | GAACAACATC |
| K N G G T C S | D Y V N S Y | T C K C Q A G | F D G V H C E | N N I> | | | | |
| | | | | | | | | |
| 2980 | 2990 | 3000 | 3010 | 3020 | 3030 | 3040 | 3050 | 3060 |
| * | * | * | * | * | * | * | * | * |
| AATCAGTGCA | CTGAGAGCTC | CTGTTTCAAT | GGTGGCACAT | GTGTGATGG | GATTAACCTC | TTCTCTTGCT | TGTGCCCTGT | GGGTTTCACT |
| N E C T E S S | C F N G G T | C V D G I N S | F S C L C P V | G F T> | | | | |
| | | | | | | | | |
| 3070 | 3080 | 3090 | 3100 | 3110 | 3120 | 3130 | 3140 | 3150 |
| * | * | * | * | * | * | * | * | * |
| GGATCCTTCT | GCCTCCATGA | GATCAATGAA | TGCAGCTCTC | ATCCATGCCT | GAATGAGGGA | ACGTGTGTTG | ATGCCCTGGG | TACCTACCCG |
| G S F C L H E | I N E C S S | H P C L N E G | T C V D G L G | T Y R> | | | | |
| | | | | | | | | |
| 3160 | 3170 | 3180 | 3190 | 3200 | 3210 | 3220 | 3230 | 3240 |
| * | * | * | * | * | * | * | * | * |
| TGCAGCTGCC | CCCTGGGCTA | CACTGGGAAA | AAGTGTGAGA | CCCTGGTGAA | TCTCTGCAGT | CGGTCTCCAT | GTA AAAACAA | AGGTACTTGT |
| C S C P L G Y | T G K N C Q | T L V N L C S | R S P C K N K | G T C> | | | | |

```

3250      3260      3270      3280      3290      3300      3310      3320      3330
*         *         *         *         *         *         *         *         *
GTTCAGAAAA AAGCAGAGTC CCAGTGCCTA TGTCCATCTG GATGGGCTGG TGCCTATTGT GACGTGCCCC ATGCTCTCTG TGACATAGCA
V Q K K A E S Q C L C P S G W A G A Y C D V P N V S C D I A>

3340      3350      3360      3370      3380      3390      3400      3410      3420
*         *         *         *         *         *         *         *         *
GCCTCCAGGA GAGGTGTGCT TGTGAACAC TTGTGCCAGC ACTCAGGTGT CTGCATCAAT GCTGCCAACA CGCATTACTG TCAGTGCACC
A S R R G V L V E H L C Q H S G V C I N A G N T H Y C Q C P>

3430      3440      3450      3460      3470      3480      3490      3500      3510
*         *         *         *         *         *         *         *         *
CTGGGCTATA CTGGGAGCTA CTGTGAGGAG CAACTCGATG AGTGTGGCTC CAACCCCTGC CAGCACGGGG CAACATGCAG TGACTTCATT
L G Y T G S Y C E E Q L D E C A S N P C Q H G A T C S D F I>

3520      3530      3540      3550      3560      3570      3580      3590      3600
*         *         *         *         *         *         *         *         *
GGTGGATACA GATGCCAGTG TGTCCCAGGC TATCAGGCTG TCAACTGTGA GTATGAAGTG GATGAGTGCC AGAATCAGCC CTGCCAGAAT
G G Y R C E C V P G Y Q G V N C E Y E V D E C Q N Q P C Q N>

3610      3620      3630      3640      3650      3660      3670      3680      3690
*         *         *         *         *         *         *         *         *
GGAGGCACCT GTATTGACCT TGTGAACCAT TTCAAGTGCT CTGCCCACCC AGGCACTCGG GGCCTACTCT GTGAAGAGAA CATTGATGAC
G G T C I D L V N H F K C S C P P G T R G L L C E E N I D D>

3700      3710      3720      3730      3740      3750      3760      3770      3780
*         *         *         *         *         *         *         *         *
TGTGCCCCGG GTCCCCATTG CCTTAATGCT GGTCACTGCA TGGATAGGAT TGGAGGCTAC AGTGTGCGCT GCTTGCCCTG CTTTGCTGGG
C A R G P H C L N G G Q C M D R I G G Y S C R C L P G F A G>

3790      3800      3810      3820      3830      3840      3850      3860      3870
*         *         *         *         *         *         *         *         *
GAGCGTGTG AGGGAGACAT CAACGAGTGC CTCTCCAACC CCTGCAGCTC TGAGGGCAGC CTGGAAGTGA TACAGCTCAC CAATGACTAC
E R C E G D I N E C L S N P C S S E G S L D C I Q L T N D Y>

3880      3890      3900      3910      3920      3930      3940      3950      3960
*         *         *         *         *         *         *         *         *
CTGTGTGTTT GCCGTAGTGC CTTTACTGGC CGGCACTGTG AAACCTTCGT CGATGTGTGT CCCCAGATGC CCTGCCTGAA TGGAGGGACT
L C V C R S A F T G R H C E T F V D V C P Q M P C L N G G T>

3970      3980      3990      4000      4010      4020      4030      4040      4050
*         *         *         *         *         *         *         *         *
TGTGCTGTGG CCAGTAACAT GCCTGATGCT TTCATTGCC GTTGTCCTCC GCGATTTTCC GGGGCAAGGT GCCAGAGCAG CTGTGGACAA
C A V A S N M P D G F I C R C P P G F S G A R C Q S S C G Q>

```

FIG 17F

4060 4070 4080 4090 4100 4110 4120 4130 4140
* * * * *
GTGAAATGTA GGAAGCGGGA GCAGTGTGTG CACACCCCT CTGGACCCCG CTGCTTCTGC CCCAGTCCCC GGGACTGCCA GTCAGGCTGT
V K C R K G E Q C V H T A S G P R C F C P S P R D C E S G C>

4150 4160 4170 4180 4190 4200 4210 4220 4230
* * * * *
GCCAGTAGCC CCTGCCAGCA CGGGGGCAGC TGCCACCCCTC AGCGCCAGCC TCCTTATTAC TCCTGCCAGT GTGCCCCACC ATTCTCGGCT
A S S P C Q H G G S C H P Q R Q P P Y Y S C Q C A P P F S G>

4240 4250 4260 4270 4280 4290 4300 4310 4320
* * * * *
AGCCGCTGTG AACTCTACAC GGCACCCCCC AGCACCCCTC CTGCCACCTG TCTGAGCCAG TATTGTGCCG ACAAGCTCG CGATGGCGTC
S R C E L Y T A P P S T P P A T C L S Q Y C A D K A R D G V>

4330 4340 4350 4360 4370 4380 4390 4400 4410
* * * * *
TGTGATGAGC CCTGCAACAG CCATGCCTGC CAGTGGGATG GGGTGACTG TTCTCTCACC ATGGAAGACC CCTGGGCCAA CTGCTCCTCC
C D E A C N S H A C Q W D G G D C S L T M E N P W A N C S S>

4420 4430 4440 4450 4460 4470 4480 4490 4500
* * * * *
CCACTTCCTT GCTGGGATTA TATCAACAAC CAGTGTGATG AGCTGTGCAA CACGGTCCAG TGCTGTITG ACAACTTTGA ATGCCAGGGC
P L P C W D Y I N N Q C D E L C N T V E C L F D N F E C Q G>

4510 4520 4530 4540 4550 4560 4570 4580 4590
* * * * *
AACAGCAAGA CATGCAAGTA TGACAAATAC TGTGCAGACC ACTTCAAAGA CAACCACTGT AACCAGGGGT GCAACAGTGA GGAGTGTGCT
N S K T C K Y D K Y C A D H F K D N H C N Q G C N S E E C G>

4600 4610 4620 4630 4640 4650 4660 4670 4680
* * * * *
TGGGATGGCC TGGACTGTGC TGCTGACCAA CCTGAGAACC TGGCAGAAGG TACCCTGGTT ATTGTGGTAT TGATGCCACC TGAACAACG
W D G L D C A A D Q P E N L A E G T L V I V V L M P P E Q L>

4690 4700 4710 4720 4730 4740 4750 4760 4770
* * * * *
CTCCAGGATG CTGCAGCTT CTTGGGGGCA CTGGGTACCC TGCTCCACAC CAACCTGCCC ATTAAGCGCG ACTCCCAGGG GGAACATG
L Q D A R S F L R A L G T L L H T N L R I K R D S Q G E L M>

4780 4790 4800 4810 4820 4830 4840 4850 4860
* * * * *
GTGTACCCCT ATTATGGTGA GAAGTCAGCT GCTATGAAGA AACAGAGGAT GACACGCAGA TCCCTTCCTG GTGAACAAGA ACAGGAGGTC
V Y P Y Y G E K S A A M K K Q R M T R R S L P G E Q E Q E V>

FIG.17F

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4870      4880      4890      4900      4910      4920      4930      4940      4950
*         *         *         *         *         *         *         *         *
CTCTGGCTCTA AAGTCTTTCT CGAAATTGAC AACCGCCAGT GTGTTCAGA CTCAGACCAC TGCTTCAAGA ACACGGATGC AGCAGCAGCT
A G S K V F L E I D N R Q C V Q D S D H C F K N T D A A A A>

4960      4970      4980      4990      5000      5010      5020      5030      5040
*         *         *         *         *         *         *         *         *
CTCCTGGCCT CTCACGCCAT ACAGGGGACC CTGTCATACC CTCTTGTC TCCTCTCAGT GAATCCCTGA CTCAGAACC CACTCAGCTC
L L A S H A I Q G T L S Y P L V S V V S E S L T P E R T Q L>

5050      5060      5070      5080      5090      5100      5110      5120      5130
*         *         *         *         *         *         *         *         *
CTCTATCTCC TTGCTGTGCT TGTGTCATC ATTCTGTTA TTATTCTGCT GGGCGTAATC ATGGCAAAAC GAAAGCGTAA GCATGGCTCT
L Y L L A V A V V I I L F I I L L G V I M A K R K R K H G S>

5140      5150      5160      5170      5180      5190      5200      5210      5220
*         *         *         *         *         *         *         *         *
CTCTGGCTGC CTGAAGGTTT CACTCTTCGC CGAGATGCAA GCAATCACA GCGTCGTGAG CCAGTGGGAC AGGATGCTGT GGGCGTGAAA
L W L P E G F T L R R D A S N H K R R E P V G Q D A V G L K>

5230      5240      5250      5260      5270      5280      5290      5300      5310
*         *         *         *         *         *         *         *         *
AATCTCTCAG TGCAAGTCTC AGAAGCTAAC CTAATTGTA CTGGAACAAG TGAACACTGG GTCGATGATG AAGGGCCCCA GCCAAAGAAA
N L S V Q V S E A N L I G T G T S E H W V D D E G P Q P K K>

5320      5330      5340      5350      5360      5370      5380      5390      5400
*         *         *         *         *         *         *         *         *
GTAAAGGCTG AAGATGAGGC CTTACTCTCA GAAGAAGATG ACCCCATTGA TCGACGGCCA TGGACACAGC AGCACCTTGA AGCTGCAGAC
V K A E D E A L L S E E D D P I D R R P W T Q Q H L E A A D>

5410      5420      5430      5440      5450      5460      5470      5480      5490
*         *         *         *         *         *         *         *         *
ATCCGTAGGA CACCATGCGT GGCTCTCACC CCTCCTCAGG CAGAGCAGGA GGTGATGTCG TTAGATGTGA ATGTCCGTGG CCCAGATGGC
I R R T P S L A L T P P Q A E Q E V D V L D V N V R G P D G>

5500      5510      5520      5530      5540      5550      5560      5570      5580
*         *         *         *         *         *         *         *         *
TGCACCCCAT TGATGTGGC TTCTCTCCGA CGAGGCAGCT CAGATTGAG TGATGAAGAT GAAGATGCAG AGGACTCTTC TGCTAACATC
C T P L M L A S L R G G S S D L S D E D E D A E D S S A N I>

5590      5600      5610      5620      5630      5640      5650      5660      5670
*         *         *         *         *         *         *         *         *
ATCACAGACT TGGTCTACCA GGGTCCAGC CTCCAGGCC AGACAGACCG GACTGGTGAG ATGGCCCTGC ACCTTGCAGC CCGCTACTCA
I T D L V Y Q G A S L Q A Q T D R T G E M A L H L A A R Y S>

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FIG. 17G

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6490      6500      6510      6520      6530      6540      6550      6560      6570
      *      *      *      *      *      *      *      *      *
ACGTATGTTT CCGACACCAC ATCCTCTCCA ATGATTACAT CCCCTGGGAT CTTACAGGCC TCACCCAACC CTATGTTGGC CACTGCCGCC
T Y V S D T T S S P M I T S P G I L Q A S P N P M L A T A A>

6580      6590      6600      6610      6620      6630      6640      6650      6660
      *      *      *      *      *      *      *      *      *
CCTCTGCCCC CAGTCCATGC CCAGCATGCA CTATCTTTT CTAACCTTCA TGAATGCCAG CCTTTGGCAC ATGGGGCCAG CACTGTGCTT
P P A P V H A Q H A L S F S N L H E M Q P L A H G A S T V L>

6670      6680      6690      6700      6710      6720      6730      6740      6750
      *      *      *      *      *      *      *      *      *
CCCTCAGTGA GCCAGTIGCT ATCCACCCAC CACATTGTGT CTCACGGCAG TGGCAGTGCT GGAAGCTTGA GTAGGCTCCA TCCAGTCCCA
P S V S Q L L S H H H I V S P G S G S A G S L S R L H P V P>

6760      6770      6780      6790      6800      6810      6820      6830      6840
      *      *      *      *      *      *      *      *      *
GTCCACGACG ATTGGATGAA CCGCATGGAG GTGAATGAGA CCCAGTACAA TGAGATGTTT GGTATGGTCC TGGCTCCAGC TGAGGCGACC
V P A D W M N R M E V N E T Q Y N E M F G M V L A P A E G T>

6850      6860      6870      6880      6890      6900      6910      6920      6930
      *      *      *      *      *      *      *      *      *
CATCTGGCA TAGCTCCCCA GACGAGGCCA CCTGAAGGGA AGCACATAAC CACCCCTCGG GAGCCCTTGC CCCCATTGT GACTTTCAG
H P G I A P Q S R P P E G K H I T T P R E P L P P I V T F Q>

6940      6950      6960      6970      6980      6990      7000      7010      7020
      *      *      *      *      *      *      *      *      *
CTCATCCCTA AAGGCAGTAT TGCCCAACCA GCGGGGGCTC CCCAGCCTCA GTCCACCTGC CCTCCAGCTG TTGCGGGCCC CCTGCCACCC
L I P K G S I A Q P A G A P Q P Q S T C P P A V A G P L P T>

7030      7040      7050      7060      7070      7080      7090      7100      7110
      *      *      *      *      *      *      *      *      *
ATGTACCAGA TTCCAGAAAT GGGCCGTTTG CCCAGTGTGG CTTTCCCCAC TGCCATGATG CCCCAGCAGG ACCGGCAGGT AGCTCAGACC
M Y Q I P E M A R L P S V A F P T A M M P Q Q D G Q V A Q T>

7120      7130      7140      7150      7160      7170      7180      7190      7200
      *      *      *      *      *      *      *      *      *
ATTCTCCCAG CCTATCATCC TTTCCAGCC TCTGTGGCA AGTACCCAC ACCCCCTTCA CAGCACAGTT ATGCTTCCTC AAATGCTGCT
I L P A Y H P F P A S V G K Y P T P P S Q H S Y A S S N A A>

7210      7220      7230      7240      7250      7260      7270      7280      7290
      *      *      *      *      *      *      *      *      *
GAGCGAACAC CCAGTCACAG TGGTCACCTC CAGGGTGAGC ATCCCTACCT GACACCATCC CCAGAGTCTC CTGACCAGTG GTCAAGTTCA
E R T P S H S G H L Q G E H P Y L T P S P E S P D Q W S S S>

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FIG.171

| | | | | | | | | |
|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| 7300 | 7310 | 7320 | 7330 | 7340 | 7350 | 7360 | 7370 | 7380 |
| * | * | * | * | * | * | * | * | * |
| TCACCCCACT | CTGCTTCTGA | CTGGTCAGAT | GTGACCACCA | GCCCTACCCC | TGGGGGTGCT | GGAGGAGGTC | AGCGGGGACC | TGGGACACAC |
| S P H | S A S D | W S D | V T T | S P T P | G G A | G G G | Q R G P | G T H> |
| 7390 | 7400 | 7410 | 7420 | 7430 | 7440 | 7450 | 7460 | 7470 |
| * | * | * | * | * | * | * | * | * |
| ATGTCTGAGC | CACCACACAA | CAACATGCAG | GTTTATGCGT | GAGAGAGTCC | ACCTCCAGTG | TAGAGACATA | ACTGACTTTT | GTAAATGCTG |
| M S E | P P H N | N M Q | V Y A> | | | | | |
| 7480 | 7490 | 7500 | 7510 | 7520 | 7530 | 7540 | 7550 | 7560 |
| * | * | * | * | * | * | * | * | * |
| CTGAGGAACA | AATGAAGGTC | ATCCGGGAGA | GAAATGAAGA | AATCTCTGGA | GCCAGCTTCT | AGAGGTAGGA | AAGAGAAGAT | GTTCATTATC |
| 7570 | 7580 | 7590 | 7600 | 7610 | 7620 | 7630 | 7640 | 7650 |
| * | * | * | * | * | * | * | * | * |
| AGATAATGCA | AGAGAAGCAA | TTCGTCAGTT | TCACTGGGTA | TCTGCAAGGC | TTATTGATTA | TTCTAATCTA | ATAAGACAAG | TTTGTCGAAA |
| 7660 | 7670 | 7680 | 7690 | 7700 | 7710 | 7720 | 7730 | 7740 |
| * | * | * | * | * | * | * | * | * |
| TGCAAGATGA | ATACAAGCCT | TGGGTCCATG | TTTACTCTCT | TCTATTGGA | GAATAAGATG | GATGCTTATT | GAAGCCCAGA | CATTCTTGCA |
| 7750 | 7760 | 7770 | 7780 | 7790 | 7800 | 7810 | 7820 | 7830 |
| * | * | * | * | * | * | * | * | * |
| GCTTGGACTG | CATTTTAAGC | CCTGCAGGCT | TCTGCCATAT | CCATGAGAAG | ATTCTACACT | AGCGTCTGT | TGGGAATTAT | GCCCTGGAAT |
| 7840 | 7850 | 7860 | 7870 | 7880 | 7890 | 7900 | 7910 | 7920 |
| * | * | * | * | * | * | * | * | * |
| TCTGCCGTAA | TTGACCTACG | CATCTCCTCC | TCCTTGGACA | TTCTTTTGTC | TTCAATTGGT | GCTTTTGTT | TTGCACCTCT | CCGTGATTGT |
| 7930 | 7940 | 7950 | 7960 | 7970 | 7980 | 7990 | 8000 | 8010 |
| * | * | * | * | * | * | * | * | * |
| AGCCCTACCA | GCATGTTATA | GGGCAAGACC | TTTGTGCTTT | TGATCATTCT | GGCCCATGAA | AGCAACTTTG | GTCTCCTTTC | CCCTCCTGTC |
| 8020 | 8030 | 8040 | 8050 | 8060 | 8070 | 8080 | 8090 | 8100 |
| * | * | * | * | * | * | * | * | * |
| TTCCCGGTAT | CCCTTGGAGT | CTCACAAGGT | TTACTTTGGT | ATGGTTCTCA | GCACAAACCT | TTCAAGTATG | TTGTTTCTTT | GGAAAATGGA |
| 8110 | 8120 | 8130 | 8140 | 8150 | 8160 | 8170 | 8180 | 8190 |
| * | * | * | * | * | * | * | * | * |
| CATACTGTAT | TGTGTTCTCC | TGCATATATC | ATTCTCGAG | AGAGAAGGGG | AGAAGAATAC | TTTTCTTCAA | CAAATTTTGG | GGCCAGGAGA |
| 8200 | 8210 | 8220 | 8230 | 8240 | 8250 | 8260 | 8270 | 8280 |
| * | * | * | * | * | * | * | * | * |
| TCCCTTCAAG | AGGCTGCACC | TAAATTTTTC | TGTCTGTGT | GCAGGTCTTC | ATATAAATT | TACCAGGAAG | AAGGGTGTGA | GTTTGTGTT |

FIG.17J

| | | | | | | | | |
|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| 8290 | 8300 | 8310 | 8320 | 8330 | 8340 | 8350 | 8360 | 8370 |
| † | † | † | † | † | † | † | † | † |
| TTTCTGTGTA | TGGCCTGGT | CAGTGTAAG | TTTTATCCTT | GATAGTCTAG | TTACTATGAC | CCTCCCCACT | TTTTTAAAC | CAGAAAAAGG |
| 8380 | 8390 | 8400 | 8410 | 8420 | 8430 | 8440 | 8450 | 8460 |
| † | † | † | † | † | † | † | † | † |
| TTTGAATGT | TGGAATGACC | AAGAGACAAG | TTAACTCGTG | CAAGAGCCAG | TTACCCACCC | ACAGGTCCCC | CTACTTCCTG | CCAAGCATTG |
| 8470 | 8480 | 8490 | 8500 | 8510 | 8520 | 8530 | 8540 | 8550 |
| † | † | † | † | † | † | † | † | † |
| CATTGACTGC | CTGTATGGAA | CACATTGTCT | CCAGATCTGA | GCATTCTAGG | CCTGTTTCAC | TCACTCACCC | AGCATATGAA | ACTAGTCTTA |
| 8560 | 8570 | 8580 | 8590 | 8600 | 8610 | 8620 | 8630 | 8640 |
| † | † | † | † | † | † | † | † | † |
| ACTGTTGAGC | CTTTCCTTTC | ATATCCACAG | AAGACACTGT | CTCAAATGTT | GTACCCCTGC | CATTAGGAC | TGAACCTTCC | TTAGCCCAAG |
| 8650 | 8660 | 8670 | 8680 | 8690 | 8700 | 8710 | 8720 | 8730 |
| † | † | † | † | † | † | † | † | † |
| GGACCCAGTG | ACAGTTGTCT | TCCGTTTGTC | AGATGATCAG | TCTCTACTGA | TTATCTTGCT | GCITAAAGGC | CTGCTCACCA | ATCTTTCTTT |
| 8740 | 8750 | 8760 | 8770 | 8780 | 8790 | 8800 | 8810 | 8820 |
| † | † | † | † | † | † | † | † | † |
| CACACCGTGT | GGTCCGTGTT | ACTGGTATAC | CCAGTATGTT | CTCACTGAAG | ACATGGACTT | TATATGTTCA | AGTGCAGGAA | TTGGAAAGTT |
| 8830 | 8840 | 8850 | 8860 | 8870 | 8880 | 8890 | 8900 | 8910 |
| † | † | † | † | † | † | † | † | † |
| GGACTTGTTT | TCTATGATCC | AAAACAGCCC | TATAAGAAGG | TTGGAAAAGG | AGGAACTATA | TAGCAGCCCT | TGCTATTTTC | TGCTACCATT |
| 8920 | 8930 | 8940 | 8950 | 8960 | 8970 | 8980 | 8990 | 9000 |
| † | † | † | † | † | † | † | † | † |
| TCTTTTCCTC | TGAAGCGGCC | ATGACATTCC | CTTTGGCAAC | TAACGTAGAA | ACTCAACAGA | ACATTTTCCT | TTCTAGAGT | CACCTTTTAC |
| 9010 | 9020 | 9030 | 9040 | 9050 | 9060 | 9070 | 9080 | 9090 |
| † | † | † | † | † | † | † | † | † |
| ATGATAATGC | ACAACTATAG | ACTTGCTCAT | TGTTGAGACT | GATTGCCCTT | CACCTGAATC | CACTCTCTGT | ATTCATGCTC | TTGGCAATTT |
| 9100 | 9110 | 9120 | 9130 | 9140 | 9150 | 9160 | 9170 | 9180 |
| † | † | † | † | † | † | † | † | † |
| CTTTGACITT | CTTTTAAGGG | CAGAAGCATT | TTAGTTAATT | GTAGATAAAG | AATAGTTTTT | TTCTCTTCT | CCITGGGCCA | GTTAATAATT |
| 9190 | 9200 | 9210 | 9220 | 9230 | 9240 | 9250 | 9260 | 9270 |
| † | † | † | † | † | † | † | † | † |
| GGTCCATGCC | TAACTGCAA | CTCCGTCCA | GTGCTGTGAT | GCCCATGACA | CCTGCAAAAT | AAGTTCTGCC | TGGGCATTTT | GTAGATATTA |

FIG.17K

| | | | | | | | | |
|------------|------------|------------|------------|------------|-------------|------------|------------|------------|
| 9280 | 9290 | 9300 | 9310 | 9320 | 9330 | 9340 | 9350 | 9360 |
| * | * | * | * | * | * | * | * | * |
| ACAGGTGAAT | TCCCGACTCT | TTTGCTTTCA | ATGACAGTTC | TCATTCCTTC | TATGGCTGCA | AGTATGCATC | ACTGCTTCCC | ACTTACCTGA |
| 9370 | 9380 | 9390 | 9400 | 9410 | 9420 | 9430 | 9440 | 9450 |
| * | * | * | * | * | * | * | * | * |
| TTTGCTCTGC | GGTGGCCCCA | TATGGAACC | CTGCGTGTCT | GTTGGCATAA | TAGTTTACAA | ATGGTTTTTT | CAGTCCTATC | CAAATTTATT |
| 9460 | 9470 | 9480 | 9490 | 9500 | 9510 | 9520 | 9530 | 9540 |
| * | * | * | * | * | * | * | * | * |
| GAACCAACAA | AAATAATTAC | TTCTGCCCTG | AGATAAGCAG | ATTAAGTTTG | TTCAATTCTCT | GCTTTATTCT | CTCCATGTGG | CAACATTCTG |
| 9550 | 9560 | 9570 | 9580 | 9590 | 9600 | 9610 | 9620 | 9630 |
| * | * | * | * | * | * | * | * | * |
| TCAGCCTCTT | TCATAGTGTG | CAAACATTTT | ATCATTCTAA | ATGGTCACTC | TCGCCCCTTG | GACCCATTTA | TTATTCACAG | ATGGGGAGAA |
| 9640 | 9650 | 9660 | 9670 | 9680 | 9690 | 9700 | 9710 | 9720 |
| * | * | * | * | * | * | * | * | * |
| CCTATCTGCA | TGGACCCTCA | CCATCCTCTG | TGCAGCACAC | ACAGTGCAGG | GACCCAGTGG | CGATGGCGAT | GACTTTCTTC | CCCTGGGAAT |

TCC

FIG.17L

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